# Aspire L350/Veriton 1000

## Service Guide

PRINTED IN TAIWAN

# Revision History

Please refer to the table below for the updates made on Aspire L350/Veriton 1000 service guide.

| Date | Chapter | Updates |
|---|---|---|
| January 9, 2007 | | initial release |
| | | |
| | | |

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# Conventions

The following conventions are used in this manual:

| | |
|---|---|
| **Screen messages** | Denotes actual messages that appear on screen. |
| **NOTE** | Gives bits and pieces of additional information related to the current topic. |
| **WARNING** | Alerts you to any damage that might result from doing or not doing specific actions. |
| **CAUTION** | Gives precautionary measures to avoid possible hardware or software problems. |
| **IMPORTANT** | Reminds you to do specific actions relevant to the accomplishment of procedures. |

# Preface

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.

2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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# System Specifications

## Overview

AcerPower 1000 series is highly integrated desktop for the customers. If you want a simple, small size, not expensive working platform. AcerPower 1000 is definitely one of the best choices for you.

AMD mobile Athlon 64x2 and Sempron processor enable this product working with less power consumption: only 62W. This exactly shows Acer's endeavor to environment protection. AcerPower integrates nVidia C51PV/G that supports 475/425 MHz graphics core speed, DVI output and directX-9 high level specification.

# Features

**CPU**

- ❑ Socket Type: Intel socket T (LGA775)
- ❑ Socket Quantity: 1
- ❑ Supports Intel Conroe (E6700/E6600/E6400/E6300) TDP=65W
- ❑ L2 Cache varies with CPU

**Chipset**

- ❑ Northbridge: Intel G965, Southbridge: Intel ICH8DH (ViiV-for Aspire L350)
- ❑ Northbridge: Intel Q965, Southbridge: Intel ICH8DO (vPro-for Veriton 1000)

**Memory**

- ❑ Socket Type: DDR II so-DIMM,1.8 Voltage
- ❑ Socket Quantity: 2
- ❑ Capacity support: 256MB ~ 2GB, supporting dual channel
- ❑ Support Memory Speed: DDR II 533/667/800MHz

**Graphic Solution**

- ❑ Intel Broadwater-G on-die graphic solution
- ❑ Support integrated graphic display
- ❑ Display output supporting HDMI/DVI/D-sub output
- ❑ TV output (for Aspire L350)

**Mini PCI Slot**

- ❑ Slot Type: PCI 2.3 slot
- ❑ Slot Quantity: for Mini-card (PCI Express):1; for Mini-PCI:1

**IDE**

- ❑ Slot Type : SATA IDE connector
- ❑ Slot Quantity : 2
- ❑ Storage Type support: HDD, (optional for Veriton 1000) DVD-ROM/Combo/DVD Dual/DVD Super-Multi (w/PATA to SATA daughter board)

**Audio**

- ❑ Codec : Realtek ALC888 7.1 with S/PDIF out
- ❑ Compliant with Microsoft's UAA (Universal Audio Architecture) support (rear only)
- ❑ S/N ratio: 90dB at rear output jack
- ❑ Connectors support: 6 audio jacks at rear side
- ❑ 1 CD-in on board header
- ❑ SNR should be $\geq 90$ dB at rear output jack
- ❑ S/PDIF out on board header (4 pins)
- ❑ 1 2*5 Header for supporting front audio daughter board

## LAN

❏ Controller : Intel ICH8DH (for Aspire L350)/Intel ICH8DO (for Veriton 1000)

❏ LAN Chip : Intel 82556DC supports Giga LAN

❏ Should be worked under 10/100/1000 Mbs environment

❏ Integrated 1.25 GHz SERDES for 1000BASE-X fiber applic

❏ Reserved disabled function on both hardware & BIOS side. Default is enabled

## USB

❏ Controller : Intel ICH8DH (for Aspire L350)/Intel ICH8DO (for Veriton 1000)

❏ Connectors Quantity : 10 (rear connectors: 4/ front connectors: 2/ on-board header: 2)

❏ 2 2*5 pin standard USB for front panel USB ports

❏ USB 2.0/1.1

## System LED Definition

| Chassis | Bezel | Power LED | | | HDD LED | LAN LED | ODD LED |
|---------|-------|-----------|-----------|-----------|---------|---------|---------|
| | | S0 | S1,S3 | S4,S5 | | | |
| H701 | V751 | Blue | Blue Blinking | OFF | Blue | Blue | Blue |
| H500 | H500 | Green | Green Blinking | OFF | Green | Green | N/A |
| H401 | V451 | Blue | Blue Blinking | OFF | Blue | Blue | Blue |
| | A451 | Blue | Blue Blinking | OFF | Blue | Blue | Blue |

## On-Board Connector

## For Aspire L350

❏ Rear I/O Connectors

❏ 1 DVI output

❏ 1 RJ 45 LAN port

❏ 4 USB ports

❏ 1 IEEE 1394 (6-pin)

❏ 1 5.1 channel out put

❏ 1 Microphone in jack

❏ 1 19V DC-in

❏ Front I/O

❏ 1 Headphone output

❏ 1 Microphone in

❏ 2 USB ports

❏ 1 IEEE 1394 (4-pin)

❏ 1 3-in-1 card reader (MS/MS Pro/SD)

❏ 1 Power/Standby button

❏ 1 Power LED

❏ 1 storage LED

❏ 1 ODD LED

- ❏ 1 LAN LED
- ❏ TV Daughter board
  - ❏ 2 Antenna input
  - ❏ 1 S-video/composite/stereo input
  - ❏ 1 S-video output
  - ❏ 1 SPDIF output
- ❏ Main Board Connectors
  - ❏ 1 CPU socket LGA775
  - ❏ 2 memory DDR II sockets so-DIMM
  - ❏ 1 mini-PCI
  - ❏ 2 SATA IDE connectors
  - ❏ 2 USB connectors with 2*5 connector
  - ❏ System fan connector 4-pin
  - ❏ Power/LED FPIO 2*7 pin connector
  - ❏ GPIO for on button recovery
  - ❏ Intruder header
- ❏ Other Connectors
  - ❏ 1 Intrusion switch
  - ❏ 1 recovery button

## For Veriton 1000

- ❏ Rear I/O Connectors
  - ❏ 1 DVI output
  - ❏ 1 RJ 45 LAN port
  - ❏ 4 USB ports
  - ❏ 1 5.1 channel phone jack
  - ❏ 1 microphone in jack
  - ❏ 1 19V DC in
- ❏ Front I/O Connectors
  - ❏ 1 Headphone output
  - ❏ 1 Microphone in jack
  - ❏ 4 USB ports
  - ❏ 1 Power/Standby button
  - ❏ 1 Power LED
  - ❏ 1 Storage LED
  - ❏ 1 ODD LED
  - ❏ 1 LAN active LED
- ❏ Main Board Connectors
  - ❏ 1 CPU socket LGA775
  - ❏ 2 memory DDR II socket so-DIMM
  - ❏ 1 mini-PCI
  - ❏ 2 SATA IDE connector

- ❏ 2 USB connectors with 2*5 connectors
- ❏ System fan connector 4-pin
- ❏ Power/LED FPIO 2*7 pin connector
- ❏ GPIO for one button recovery
- ❏ Intruder header
- ❏ Other Connectors
  - ❏ 1 Intrusion switch
  - ❏ 1 recovery button

# System Block Diagram



PCB : 235 x 170 mm ; 6 Layers

Line in

Line out

Mic in

Center/Bass out

Surround

Side-Surround

CARD
1 ports

USB1394
2 ports

USB3
2 ports

USB4
2 ports

USBLAN
2 ports

Analong Display
RAMDAC : 400MHz
Resolutions Up To 1920x1080@85Hz
VGA to SDTV/EDTV/HDTV
Resolutions Up To1600x1200

Scaleable Output Bandwidth
25-165 MegaPixels/s

HDMI

S-VIDEO

VGA (G only)

SATA1 7Pin

SATA2 7pin

Audio Codec
ALC888

intel
SPI ROM
8 pin SO8

Azalia I/F

LPC bus

BW : 150MB/s

BW : FSB : 533MHz & Freq : 133MHz
BW : FSB : 800MHz & Freq : 200MHz
BW : FSB : 1066MHz & Freq : 266MHz

652pin MBGA

INTEL
ICH8

INTEL
1226pin FC-BGA

INTEL
GMCH
(BROWATER)

INTEL
P4 Processor
CONRO CPU
LGA 775 pin

USB V2.0

Super I/O
ITE IT8718F
128pin QFP

BW : 2GB/s (Support Loech)

BW : 133MB/s @Freq : 33MHz

INTEL
82566DC/DM
81pin BGA

USBLAN
RJ45

DIMM1 : DDRII Socket 200P

DIMM1 : DDRII Socket 200P

BW : DDR2 :533/667/800MHz

CONN/
HEADER

TI 1394

MINI PCI Slot 124pin @ AD25

MINI PCI-E Slot 52pin

# Main Board Layout

| 1 | DC_IN | DC IN Connector | 15 | C51 | Nvidia C51 NorthBridge |
|---|---|---|---|---|---|
| 2 | VGA | VGA Connector | 16 | MCP51 | Nvidia MCP51 SouthBridge |
| 3 | SATA_ODD_POWER | SATA ODD power Header | 17 | COMS_BAT | COMS Battery Holder |
| 4 | SATA_HDD_POWER | SATA HDD power Header | 18 | CLS_CMOS | Clear COMS Header |
| 5 | DVI_ADUIO | DVI and Audio Connector | 19 | BUZZER | System BUZZER |
| 6 | TVOUT_SPDIF | TV OUT and SPDIF Header | 20 | MINI_1394 | Mini-1394 Header |
| 7 | FRONT_AUDIO | Front Audio Header | 21 | F_USB2 | Front USB*2 Header |
| 8 | LAN_USB2 | LAN and USB*2 Connector | 22 | F_USB2 | Front USB*2 Header |
| 9 | USB2 | USB*2 Connector | 23 | IDE_ODD_DAUGHTER | IDE ODD Connector |
| 10 | OBR | One Bottom Recovery header | 24 | SATA1 | SATA Header |
| 11 | CPU_FAN | CPU Fan Connector | 25 | SATA2 | SATA Header |
| 12 | INTRUSION | Case Open header | 26 | F_LED_HD | Front LED Panel Header |
| 13 | CPU_SOCKET | AMD M-2 CPU Socket | 27 | DIMM_SOCK1 | DIMM_SOCK1 |
| 14 | MINI_PCI | Mini-PCI Connector | 28 | DIMM_SOCK2 | DIMM_SOCK2 |

# Your Acer Notebook tour

After knowing your computer features, let us show you around your new AcerPower computer.

## Front view
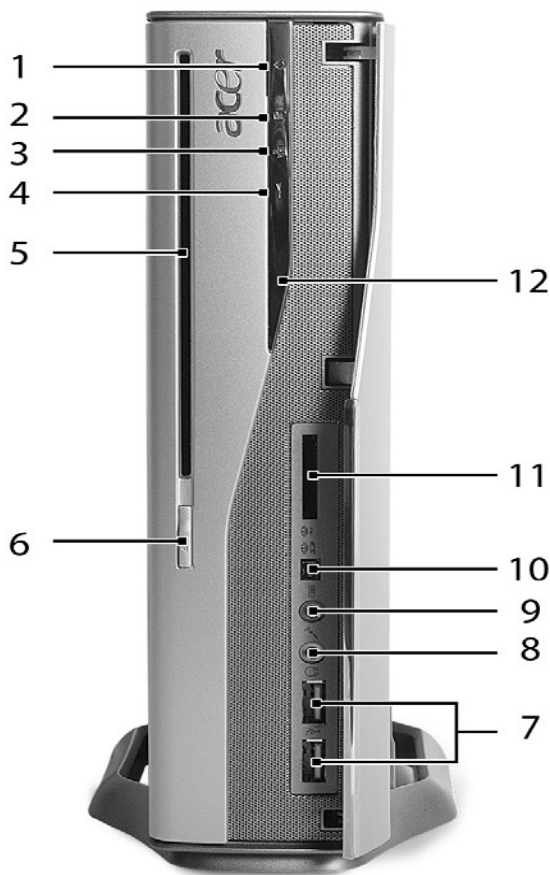


| # | Component | Description |
|---|-----------|-------------|
| 1 | Power button | Press to power on or power off the system. |
| 2 | Media activity | Indicates when the hard disk or optical drive is active. |
| 3 | LAN indicator | Indicates the status of LAN communication. |
| 4 | Infrared port | Receives IR signals from the remote control. |
| 5 | Multi Writable DVD drive | Use to access and record data on compact disks (CDs) and digital video disks (DVDs). |
| 6 | Drive eject button | Ejects the optical disk. |

| 7 | USB 2.0 ports | Connects to USB peripherals devices (e.g., USB mouse, USB printer, USB combo drive, digital cameras). |
|---|---|---|
| 8 | 1/4" microphone jack | Connects to a microphone. |
| 9 | 1/4" headphone jack | Connects to a headphone. |
| 10 | 4-pin IEEE 1394 port | Connects to an IEEE 1394 device (e.g., digital video camcorder). |
| 11 | XD/SD/MMC/MS/MS Pro slot | Accepts an XD (eXtreme Digital), SD (SecureDigital), MMC (MultimediaCard), MS (Memory Stick) or MS Pro (Memory Stick Pro) card. Warning: If you want to read contents from small form factor memory cards, such as mini-SD, RS-MMC, or MS Pro Duo you should use a suitable adapter. |
| 12 | IR (Infrared) receiver | Receives IR signals from the remote control. |

## Rear view
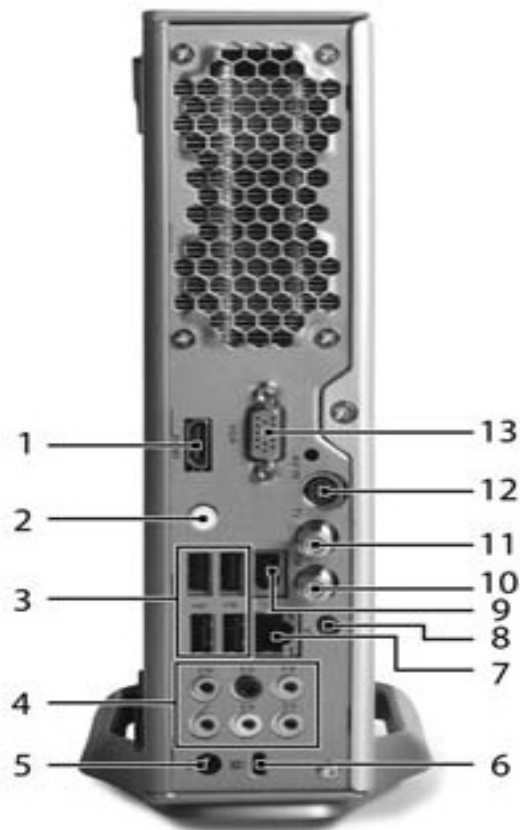
| # | Component | Description |
|---|----------|-------------|
| 1 | HDMI | Connects to a TV with HDMI input. |
| 2 | Coaxial digital audio output jack | Connects to a digital device, such as MiniDisc recorders, home theater receivers, or A/V receivers. |
| 3 | USB 2.0 ports | Connects to USB peripheral devices (e.g., USB mouse, USB printer, USB drive). |
| 4 | Multi-channel speaker audio output connectors | Connects to an amplifier which has multi-channel audio system. |
| 5 | DC-in jack | Connects to an AC adapter. |
| 6 | Kensington lock slot | Connects to a Kensington-compatible computer security lock. |
| 7 | LAN port | Connects to an Ethernet 10/100/1G-based network. |
| 8 | IR blaster port | Connect an IR blaster to the set-top-box°¶s IR sensor window. |
| 9 | 6-pin IEEE 1394 port | Connects to an IEEE 1394 device (e.g., digital video camcorder, hard disk, scanners). |
| 10 | FM radio input jack | Connects to an external FM radio antenna. |
| 11 | TV antenna/cable input jack | Connects to a antenna or cable TV. |
| 12 | AV-In port | Accepts input signals from audio/visual (AV) devices. |
| 13 | VGA port | Connects to a display device (e.g., external monitor, LCD projector). |

**Audio output connectors function table**

| Color/Use | Headphone | 1.1 CH | 3.1 CH | 5.1 CH | 7.1 CH |
|-----------|-----------|--------|--------|--------|--------|
| Blue | Line-in | Line-in | Line-in | Line-in | Line-in |
| Green | Headphone | Line-out | Front | Front | Front |
| Pink | | Mic-in | Mic-in | Mic-in | Mic-in |
| Orange | | | | Rear | Rear |
| Black | | | Center & woofer | Center & woofer | Center & woofer |
| Gray | | | | | Side |

# System Peripherals

The Aspire L350 and Veriton 1000 computer consist of the system itself, and system peripherals, like a mouse, keyboard and a set of speakers (optional). This section provides a brief description of the basic system peripherals.

## Mouse (PS/2 or USB, manufacturing option)

The included mouse is a standard two-button wheel mouse. Connect the mouse to the PS/2 mouse port or USB port on the back panel of the system.

## Keyboard (PS/2 or USB, manufacturing option)

Connect the keyboard to the PS/2 keyboard port or USB port on the back panel of the system.
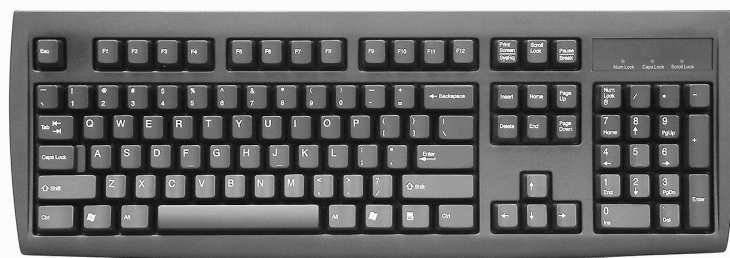
## Speakers

For systems bundled with speakers, before powering on the system, connect the speaker cable to the audio out (external speaker) port on the back panel of the system.

For more detailed information about the speakers, please refer to the included operating instructions.

**NOTE:** speakers are optional and the appearance might be different depending on the actual product.

# Hardware Specifications and Configurations

**System Board Major Chip**

| Item | Specification |
|------|---------------|
| System Core Logic | Northbridge: Intel G965, Southbridge: Intel ICH8DH (ViiV-for Aspire L350) |
| | Northbridge: Intel Q965, Southbridge: Intel ICH8DO (vPro-for Veriton 1000) |
| Super I/O Controller | ITE IT8718F |
| LAN Controller | Intel 82566DM |
| Memory Controller | Intel G965 |
| SATA/P-IDE Controller | Intel ICH8 |
| RJ45 Controller | Intel 82566DC/DM |
| Audio Controller | Realtek ALC888 |
| VGA Controller | Intel G965 |

**Processor**

| Item | Specification |
|------|---------------|
| Type | Intel Conroe (E6700/E6600/E6400/E6300) |
| Slot | Intel socket T (LGA775) |
| Speed | Depends on CPU, which is local configured |
| Front Side Bus Frequency | 1066MHz |
| Voltage | Processor voltage can be detected by any system without setting any jumper |

**BIOS**

| Item | Specification |
|------|---------------|
| BIOS code programmer | Award |
| BIOS version | |
| BIOS ROM size | 8Mbit (=1MB for Aspire L350)/16Mbit (=2MB for Veriton 1000) |
| BIOS ROM package | 32-pin PLCC package |
| Support protocol | USB 1.1, 2.0, ACPI 1.2, 2.0, LS-120 removable media support, SMBIOS 2.4, WFF 2.0 (wire for management), ASF 2.0, LPC decoding for TPM support, SIPP support, PnP support, PCI 2.3 PXE 2.0, APM 1.2,VESA/DPMS (VBE/PM V1.1), Bootable CD-ROM 1.0, UHCI 1.0 |
| Boot from CD-ROM feature | Yes |
| Support to LS-120 drive | Yes |
| Support to BIOS boot block feature | Yes |
| BIOS Password Control | Yes |

The BIOS can be overwritten/upgraded by using "AFLASH" utility (AFLASH.EXE).

**BIOS Hotkey List**

| Hotkey | Function | Description |
|--------|----------|-------------|
| Del/F12 | Enter BIOS Setup Utility/Enter Boot menu | Press while the system is booting to enter BIOS Setup Utility or boot menu. |

**System Memory**

| Item | Specification |
|------|---------------|
| Memory Slot Number | 2 Slots |
| Supported Memory Size per Slot | 256 MB ~ 1GB |
| Supported Maximum Memory Size | 2GB |
| Supported Memory Speed | 533/667/800 MHz |
| Supported memory voltage | 1.8 V |
| Support memory module package | 240-pin DIMM |
| Support to parity check feature | Yes |
| Support to Error Correction Code (ECC) feature | Yes |
| Memory module combinations | You can install memory modules in any combination as long as they match the above specifications. |

**Cache Memory**

| Item | Specification |
|------|---------------|
| First-Level Cache Configurations | |
| Cache function control | Enable/Disable by BIOS Setup |
| Second-Level Cache Configurations<br>The information below is only applicable to system installed with a Pentium 4 processor | |
| Tag RAM Location | On Processor |
| L2 Cache RAM Location | On Processor |
| L2 Cache RAM type | PBSRAM (Pipelined-burst Synchronous RAM) |
| L2 Cache RAM size | Depends on CPU, which is local configured |
| L2 Cache RAM speed | Full of the processor core clock frequency (Advanced Transfer Cache) |
| L2 Cache function control | Enable/Disable by BIOS Setup |
| L2 Cache scheme | Fixed in write-back |

**LAN Interface**

| Item | Specification |
|------|---------------|
| LAN Controller | Intel 82566DC support Giga LAN |
| LAN Controller Resident Bus | PCI Bus |
| LAN Port | ONE RJ-45 on board |
| Function Control | Enable/Disable by BIOS Setup |

**IDE Interface**

| Item | Specification |
|---|---|
| IDE Controller | Built-in Intel ICH8DH (ViiV-for Aspire L350)/Intel ICH8DO (vPro-for Veriton 1000) |
| IDE Controller Resident Bus | PCI bus |
| Number STAT IDE slot | 2 |
| ❑ Device Type Support | HDD,CD-ROM,CD-RW,DVD-ROM,DVD-RW,DVD+RW,DVD Dual, DVD Supermultiplus |
| Supports LS-120 | Yes |
| Supports bootable CD-ROM | Yes |
| Function Control | Enable/Disable by BIOS setup |

**USB Port**

| Item | Specification |
|---|---|
| Universal HCI | USB 2.0/1.1 |
| Controller | Built-in Intel ICH8DH (for Aspire L350)/Intel ICH8DO (for Veriton 1000) |
| Number of the connectors | 6 (for Aspire L350)/ 8 (for Veriton 1000) |
| Location | Rear : 2 (for Aspire L350)/ 4 (for Veriton 1000) |
| | Front : 4 (for Aspire L350)/ 4 (for Veriton 1000) |
| USB Class | Support legacy keyboard for legacy mode |

**Wake-up Event Specifications**

| Device | S1 | S3 | S4 | S5 |
|---|---|---|---|---|
| Power Button | Enabled | Enabled | Enabled | Enabled |
| PS2 Keyboard | Disabled | Disabled | Disabled | Disabled |
| USB Keyboard | Disabled | Disabled | N/A | N/A |
| PME | Disabled | Disabled | Disabled | Disabled |
| WOR (wake on Ring) | Disabled | Disabled | Disabled | Disabled |
| RTC (real time clock) | Disabled | Disabled | Disabled | Disabled |

**Thermal Design**

| Item | Description |
|---|---|
| Thermal Design | ❑ Thermal solution should cover Intel Conroe family TDP=65W <br> ❑ 4-pin fan connector |

**Memory Address Map**

| Address | Size | Function |
|---|---|---|
| 0000000 - 009FFFF | 640 KB System Memory | Onboard DRAM |
| 00A0000-00BFFFF | 128 KB Video RAM | Reserved for Graphics Display Buffer<br>Non-Cacheable |
| 00C0000-00CFFFF | 32 KB I/O Expansion ROM | Reserved for ROM on I/O Adapters |
| 00D0000-00D3FFF | 16 KB I/O Expansion ROM | Reserved for ROM on I/O Adapters |
| 00D4000-00D7FFF | 16 KB I/O Expansion ROM | Reserved for ROM on I/O Adapters |
| 00D8000-00DBFFF | 16 KB I/O Expansion ROM | Reserved for ROM on I/O Adapters |
| 00DC000-00DFFFF | 16 KB I/O Expansion ROM | Reserved for ROM on I/O Adapters |
| 00E0000-00E7FFF | 32 KB for SCSI BIOS | Reserved for SCSI BIOS |
| 00E8000-00EFFFF | 32 KB | Reserved Onboard |
| 00F0000-00FFFFF | 64 KB BIOS | System ROM BIOS (ROM)<br>System RAM BIOS (DRAM) |
| 0100000-0F9FFFF | System Memory | Onboard DRAM |
| 0FA0000-0FFFFFF | 384 KB I/O Card Memory | Reserved for Memory Map<br>I/O Card<br>Non-Cacheable |
| 1000000-FFFFFFF | System Memory | Onboard DRAM |

**I/O Address Map**

| Hex Range | Devices |
|-----------|---------|
| 000-01F | DMA Controller-1 |
| 020-021 | Interrupt Controller-1 |
| 040-043 | System Timer |
| 060-060 | Keyboard Controller 8742 |
| 061-061 | System Speaker |
| 070-071 | CMOS RAM Address and Real Time Clock |
| 080-08F | DMA Page Register |
| 0A0-0A1 | Interrupt Controller-2 |
| 0C0-0DF | DMA Controller-2 |
| 0F0-0FF | Math Co-Processor |
| 170-177 | Secondary IDE |
| 1F0-1F7 | Primary IDE |
| 278-27F | Parallel Printer Port 2 |
| 2F8-2FF | Serial Asynchronous Port 2 |
| 378-37F | Parallel Printer Port 1 |
| 3F0-3F5 | Floppy Disk Controller |
| 3F6-3F6 | Secondary IDE |
| 3F7-3F7 | Primary IDE |
| 3F8-3FF | Serial Asynchronous Port 1 |
| 0CF8 | Configuration Address Register |
| 0CFC | Configuration Data Register |
| 778-77A | Parallel Printer Port 1 |

**IRQ Assignment Map**

| IRQx | System Devices | Add-On-Card Devices |
|------|----------------|---------------------|
| IRQ0 | Timer | N |
| IRQ1 | Keyboard | N |
| IRQ2 | Reserved | N |
| IRQ3 | Serial Port 2 | Reserved |
| IRQ4 | Serial Port 1 | Reserved |
| IRQ5 | Reserved | Reserved |
| IRQ6 | Floppy Disk | Reserved |
| IRQ7 | Parallel Port | Reserved |
| IRQ8 | Real Time Clock | N |
| IRQ9 | N | Reserved |
| IRQ10 | N | Reserved |
| IRQ11 | N | Reserved |
| IRQ12 | PS/2 Mouse | Reserved |
| IRQ13 | Numeric Processor | N |
| IRQ14 | Embedded Hard Disk | Reserved |
| IRQ15 | Reserved | Reserved |

**NOTE:** N - Not be used

**Environmental Requirements**

| Item | Specifications |
|------|----------------|
| Temperature | |
| Operating | +5°C ~ +35°C |
| Non-operating | -20 ~ +60°C (Storage package), -10°C~+60°C (un-package) |
| Humidity | |
| Operating | 15% to 80% RH, non-condensing |
| Non-operating | 10% to 90% RH, non-condensing at 40°C |
| Vibration | |
| Operating (unpacked) | 5 ~ 500Hz, 2.20g RMS random,10 minutes per axis in all 3 axes |
| Non-operating (packed) | 5 ~ 500Hz, 1.09g RMS random,1 hour per axis in all 3 axes |
| Shock Operating | Half sine, 2g 11m seconds |

**Drop Test**

| Drop Test | | | | |
|-----------|---|---|---|---|
| Definition | The protection ability of packing & cushion must be capable of withstanding, with no physical or functional damage, mechanical impact from height-specific drops. | | | |
| Test Standard | see below table: | | | |
| Package Cross Weight | | Drop Height | | Not of Drop |
| KGs | lbs | CM | Inch | |
| 0~9.1 | 0~20 | 76 | 30 | 10 |
| 9.1~18.2 | 20~40 | 61 | 24 | 10 |
| 18.2~27.3 | 40~60 | 46 | 18 | 10 |
| 27.3~45.4 | 60~100 | 31 | 12 | 10 |
| 10 drops : one corner, three edges, six surfaces | | | | |

# Power Management Function (ACPI support function)

**Device Standby Mode**

❑ Independent power management timer for hard disk drive devices (0-15 minutes, time step=1 minute).

❑ Hard disk drive goes into Standby mode (for ATA standard interface).

❑ Disable V-sync to control the VESA DPMS monitor.

❑ Resume method: device activated (Keyboard for DOS, keyboard & mouse for Windows).

❑ Resume recovery time: 3-5 sec.

**Global Standby Mode**

❑ Global power management timer (2-120 minutes, time step=10 minute).

❑ Hard disk drive goes into Standby mode (for ATA standard interface).

❑ Disable H-sync and V-sync signals to control the VESA DPMS monitor.

❑ Resume method: Return to original state by pushing external switch button, modem ring in, keyboard and mouse for APM mode.

❑ Resume recovery time: 7-10 sec.

**Suspend Mode**

❑ Independent power management timer (2-120 minutes, time step=10 minutes) or pushing external switch button.

❑ CPU goes into SMM.

❑ CPU asserts STPCLK# and goes into the Stop Grant State.

❑ LED on the panel turns amber colour.

❑ Hard disk drive goes into SLEEP mode (for ATA standard interface).

❑ Disable H-sync and V-sync signals to control the VESA DPMS monitor.

❑ Ultra I/O and VGA chip go into power saving mode.

❑ Resume method: Return to original state by pushing external switch button, modem ring in, keyboard and mouse for APM mode.

❑ Return to original state by pushing external switch button, modem ring in and USB keyboard for ACPI mode.

**ACPI**

❑ ACPI specification 1.0b.

❑ S0, S1, S3 and S5 sleep state support.

❑ On board device power management support.

❑ On board device configuration support.

# Dual Channel

VT x800 series support the Dual Channel Technology. After operating the dual channel
technology, the bandwidth of memory bus will add double up to 4GB/s.

The mainboard includes 4 DIMM slots, and each channel has two DIMM sockets as following:

❏ Channel A : DDR1, DDR3

❏ Channel B : DDR2, DDR4

If you want to operate the Dual Channel Technology, please note the following explanations due to
the limitation of Intel chipset specifications.

| Memory Number | | Description |
|---|---|---|
| 1 | Only one DDR memory module is installed? | The Dual Channel Technology can't operate when only one DDR memory module is installed. |
| 2 | Two DDR memory modules are installed (the same memory size and type)? | The Dual Channel Technology will operate when two memory modules are inserted individually into Channel A and B. If you install two memory modules in the same channel, the Dual Channel Technology will not operate. |
| 3 | Three DDR memory modules are installed? | Pleae note that the Dual Channel Technology will not operate when three DDR memory modules are installed; part of them will not be detected. |
| 4 | Four DDR memory modules are installed? | If you install four memory modules at the same time, the Dual Channel Technology will operate only when those modules have the same size and type. |

**NOTE:** We strongly recommend user to slot two DDR memory modules into the DIMMs with the same color in order for Dual Channel Technology to work.

The following tables include all memory-installed combination types:

**Dual Channel Technology (DS: Double Side, SS: Single Side)**

| | DDR1 | DDR2 | DDR3 | DDR4 |
|---|---|---|---|---|
| 2 memory modules | DS/SS | X | DS/SS | X |
| | X | DS/SS | X | DS/SS |
| 4 memory modules | DS/SS | DS/SS | DS/SS | DS/SS |

# System Utilities

BIOS (Basic Input and Output System) includes a CMOS SETUP utility which allows user to configure required setting or to active certain system features.

The CMOS SETUP saves the configuration in the CMOS SRAM of the mainboard. When the power is turned off, the battery on the mainboard supplies the necessary power to the CMOS SRAM.

Press <Del> button when the system is turned to enter Setup. As you press the <Del> button during BIOS POST (Power-On Self Test), it will take you to the CMOS SETUP screen.

Press <F12> you can then enter BIOS Boot Menu to select your boot up device.

When setting up BIOS for the first time, it is recommended that you save the current BIOS to a disk in the event that BIOS needs to be reset to its original settings.

BIOS is a Window s-based utility that doesn't required users to boot to DOS before upgrading BIOS but directly download and update BIOS from the Internet.
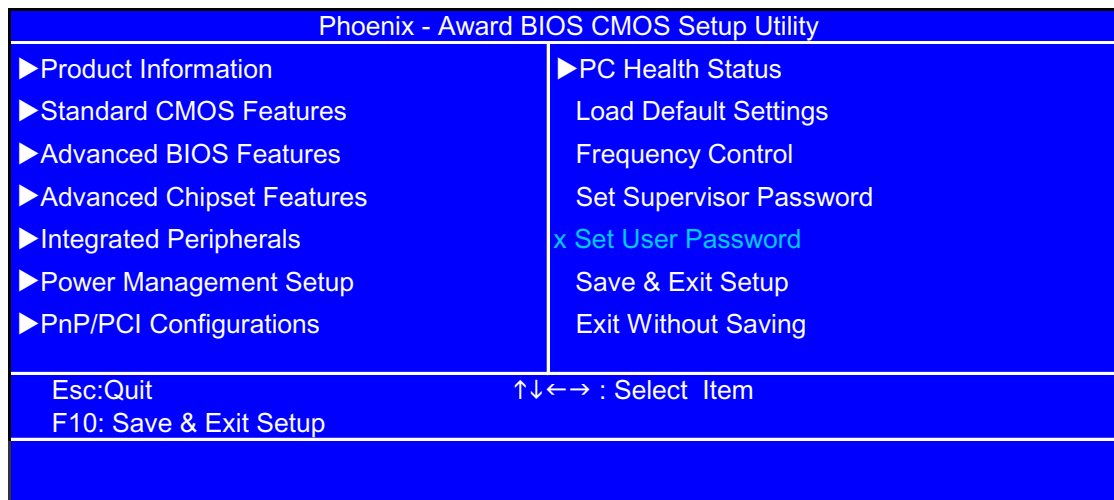
**Control Keys**

| Item | Description |
|---|---|
| ↑ → ↓ ← | Move to selection |
| ENTER | Select Item |
| ^ | Main Menu: Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu, Exit current page and return to Main Menu. |
| { | Increase the numeric value or make changes |
| } | Decrease the numeric value or make changes |
| l | General help, only for Status Page Setup Menu and Option Page Setup Menu |
| m | Item Help |
| p | Restore the previous CMOS value from CMOS, only for option Page Setup Menu |
| r | Load the Optimized Defaults |
| t | System Information |
| u | Save all the CMOS changes, only for Main Menu |

NOTE: **Main Menu**: This is the online description of the highlighted setup functions is displayed at the bottom of the screen.

NOTE: **Status Page Setup Menu/ Option Page Setup Menu**: Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc>.

# Entering Setup

Once enter Award BIOS CMOS Setup Utility, the Main Menu (as figure below) will appear on the screen. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

```
                  Phoenix - Award BIOS CMOS Setup Utility
  ▶Product Information              ▶PC Health Status
  ▶Standard CMOS Features             Load Default Settings
  ▶Advanced BIOS Features             Frequency Control
  ▶Advanced Chipset Features          Set Supervisor Password
  ▶Integrated Peripherals           x Set User Password
  ▶Power Management Setup             Save & Exit Setup
  ▶PnP/PCI Configurations             Exit Without Saving

    Esc:Quit                    ↑↓←→ : Select  Item
    F10: Save & Exit Setup
```

| Parameter | Description |
|---|---|
| Product Information | This page shows the relevant information of the mainboard |
| Standard CMOS Features | This setup page includes all the items in standard compatible BIOS |
| Advanced BIOS Features | The values for the chipset can be changed through this menu, and the system performance can be optimized. |
| Advanced Chipset Features | This setup page allows user to configure the advanced chipset settings, such as memory timing. |
| Integrated Peripherals | This setup page includes all onboard peripherals |
| Power Management Setup | This setup page includes all the items of Green function features |
| PnP/PCI Configuration | This setup page includes all configurations of PCI&PnP ISA resources |
| PC Health Status | This setup page is the System auto detect Temperature, voltage, fan and speed |
| Frequency Control | Use this menu to specify your settings for frequency control. |
| Load Default Settings | Default Settings indicates the value of the system parameters which the system would be in best performance configuration |
| Set Supervisor Password | Change, set or disable password. It allows you to limit access to the system and Setup, or just to Setup |
| Set User Password | Change, set or disable password. It allows you to limit access to the system |
| Save & Exit Setup | Save CMOS value settings to CMOS and exit setup |
| Exit Without Saving | Abandon all CMOS value changes and exit setup |

# Product Information

```
                    Phoenix - Award BIOS CMOS Setup Utility
                              Product Information
  Product Name            Aspire L350                        Item Help
  System S/N
  Main Board ID           EG965RT                     Menu Level    ▶
  System BIOS Version     R01-A0
  SMBIOS Version          2.3
  BIOS Release Date       Nov. 21, 2006




  ↑↓←→ :Move  Enter: Select   +/-/PU/PD :Value  F10:Save ESC:Exit  F1:General Help
                    F5:Previous Values  F7:Default Settings
```

| Parameter | Description |
|---|---|
| Product Name | This item lists the product name |
| System S/N | This item lists the system serial number |
| Main Board ID | This item lists the mainboard ID |
| System BIOS Version | This item lists the system BIOS version |
| SMBIOS Version | This item lists the system SMBIOS version |
| BIOS Release Date | This item lists the BIOS release date |

# Standard CMOS Features

```
                    Phoenix - Award BIOS CMOS Setup Utility
                            Standard CMOS Features
    Date (MM:DD:YY):              Mon,  Nov  21 2006
    Time (HH:MM:SS):              11:08:43                    Item Help

                                                            Menu Level  ▶
    IDE Channel              None
    SATA Channel             None

    Halt On                  [All, But Keyboard]

    Base Memory              640K
    Extended  Memory         2070528K
    Total Memory             2071552K



    ↑↓←→ :Move  Enter: Select  +/-/Pu/PD :Value F10:Save  ESC:Exit  F1:General Help
                  F5:Previous Values  F7:Default Settings
```

The following table describes the parameters found in this menu:

| Parameter | Description | Options |
|---|---|---|
| Date | Lets you set the date following the weekday-month-day-year format | Week :  from Sun. to Sat., determined by BIOS and is display only<br>Month : from Jan. through Dec.<br>Day : from 1 to 31 (or the maximum allowed in the month)<br>Year : from 1999 to 2098 |
| Time | Lets you set the time following the hour-minute-second format | The items format is <hour> <minut><second>. The time is calculated base on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00 |
| IDE channel | Display IDE interface devices data pathway | None : No SATA devices are installed |
| SATA channel | Display SATA interface devices data pathway. | None : No SATA devices are installed |
| Halt On | This parameter enables you to control the system stops in case of Power On Self Test errors (POST) | No Errors : The system boot will not stop for any error that may be detected and you will be prompted<br>All Errors : Whenever the BIOS detects a non-fatal error the system will be stopped<br>**All, But Keyboard** : The system boot will not stop for a keyboard error; it will stop for all other errors (Default value)<br>All, But Diskette : The system boot will not stop for a disk error; it will stop for all other errors<br>All, But Disk/Key : The system boot will not stop for a keyboard or disk error; it will stop for all other errors. |

| Parameter | Description | Options |
|---|---|---|
| Base Memory | The amount of RAM that comes with each model of a particular computer. The base memory can usually be upgraded to a significantly higher amount. For example, a desktop machine with 64MB might be upgradable to 768MB. | N/A |
| Extended Memory | | N/A |
| Total Memory | | N/A |

# Advanced BIOS Features

The following screen shows the Advanced BIOS Features:

```
                    Phoenix - Award BIOS CMOS Setup Utility
                           Advanced BIOS Features
 ▶ CPU Feature                    [Press Enter]
 ▶ Hard Disk Boot Priority        [Press Enter]
 ▶ Network Boot Priority          [Press Enter]
   CPU L1 & L2 Cache              [Enabled]              Item Help
   CPU L3 Cache                   [Enabled]
   Quick Power On Self Test       [Enabled]
   First Boot Device              [N/A]
   Second Boot Device             [Hard Disk]       Menu Level ▶
   Third Boot Device              [Disabled]
   Boot Other Device              [Enabled]         Select Hard Disk Boot
   Boot Up NumLock Status         [On]              Device Priority
   Typematic Rate Setting         [Disabled]
 x Typematic Rate (Chars/Sec)     6
 x Typematic Delay (Msec)         250
   Security Option                [Setup]
   APIC Mode                       Enabled
   MPS Version Control For OS      [1.4]
   HDD S.M.A.R.T. Capability      [Disabled]
   Silent Boot                    [Enabled]
   Small Logo (EPA) Show          [Disabled]
   Configuration Table            [Disabled]

 ↑↓←→ :Move  Enter: Select   +/-/PU/PD :Value F10:Save ESC:Exit  F1:General Help
                F5:Previous Values  F7:Default Settings
```

| Parameter | Description | Options |
|---|---|---|
| CPU Feature | Press [Enter] to see CPU feature | Use ↑ → to select a device, then press<+> to move it up, or < - > to move it down the list. |
| Hard Disk Boot Priority | Press [Enter] to enter the sub menu to select hard disk boot device priority. | Use ↑ → to select a device, then press<+> to move it up, or < - > to move it down the list. |
| Network Boot Priority | Press [Enter] to enter the sub menu to select network boot device priority. | Use ↑ → to select a device, then press<+> to move it up, or < - > to move it down the list. |

| Parameter | Description | Options |
|---|---|---|
| CPU L1 & L2 Cache | This BIOS feature controls the functionality of the processor's L1 & L2 cache. When enabled, the processor's Ll 1 & L2 cache will be allowed to function. This allows the best possible performance from the processor. When disabled, the processor's Level 1 cache will be disabled. The processor will bypass the Level 1 & L2 cache and rely only on the Level 3 caches. This reduces the performance of the processor. The recommended setting is obviously Enabled since disabling it severely affects the processor's performance. However, the Disabled setting is useful as a troubleshooting tool, especially when you are overclocking your processor | Enabled<br>Disabled |
| CPU L3 Cache | This BIOS feature controls the functionality of the processor's Level 3 cache. When enabled, the processor's Level 3 cache will be allowed to function. This allows the best possible performance from the processor. When disabled, the processor's Level 3 cache will be disabled. The processor will bypass the Level 3 cache and rely only on the Level 1 and Level 2 caches. This reduces the performance of the processor. | Enabled<br>Disabled |
| Quick Power On Self Test | This feature allows the system to skip certain tests while booting. When this function is enabled, it will decrease the time needed to boot the system, which means to quick power on self test function | Enabled<br>Disabled |
| First/Second/Third Boot Device | The item allows you to set the sequence of boot device where BIOS attempts to load the disk operating system. | Floppy, LS120, Hard Disk, CD-ROM, ZIP, USB-FDD, USB-ZIP, USB-CDROM, USB-HDD, LAN, Disabled |
| Boot Other Device | This item allows you to enable or disable to boot from other device | Enabled<br>Disabled |
| Boot Up NumLock Status | This item allows you to enable or disable to set keyboard is number keys or arrow keys | Enabled<br>Disabled |
| Typematic Rate Setting | If this option is on, it allows you to set manually the Typematic Rate or the Typematic Delay. | Enabled<br>Disabled |
| Typematic Rate | This item displays the highest number of characters that can be typed in a second on the keyboard. | 6, 8, 10, 12, 15, 20, 24, 30 |
| Typematic Delay | This item displays the time (in milliseconds) needed before pressing again a key on the keyboard. | 250, 500, 750, 1000 |
| Security Option | This BIOS feature controls the application of the BIOS' password protection. It will only work once you have created a password through the Password Setting option in the main BIOS screen. Selecting the System option will force the BIOS to ask for the password every time the system boots up. If you choose Setup, then the password is only required for access to the BIOS. This option is useful for system administrators or computer resellers who need to keep novice users from messing around with the BIOS. | System, Setup |

| Parameter | Description | Options |
|---|---|---|
| APCI Mode | This option is used to set up enable or disable the APCI function | Enabled<br>Disabled |
| MPS Version Control For OS | This feature is only applicable to multiprocessor motherboards as it specifies the version of the Multi-Processor Specification (MPS) that the motherboard will use. The MPS is a specification by which PC manufacturers design and build Intel architecture systems with two or more processors.<br><br>MPS 1.1 was the original specification. MPS version 1.4 adds extended configuration tables for improved support of multiple PCI bus configurations and greater expandability in the future. In addition, MPS 1.4 introduces support for a secondary PCI bus without requiring a PCI bridge.<br><br>If your operating system comes with support for MPS 1.4, you should change the setting from the default of 1.1 to 1.4. You also need to enable MPS 1.4 support if you need to make use of the secondary PCI bus on a motherboard that doesn't come with a PCI bridge.<br><br>You should only leave it as 1.1 only if you are running an older operating system that only supports MPS 1.1. | 1.1, **1.4** |
| HDD S.M.A.R.T. Capability | This BIOS feature controls support for the hard disk's S.M.A.R.T. (Self Monitoring Analysis And Reporting Technology) capability.<br><br>S.M.A.R.T. is supported by all current hard disks and it allows the early prediction and warning of impending hard disk disasters. You should enable it if you want to use S.M.A.R.T.-aware utilities to monitor the hard disk's condition. Enabling it also allows the monitoring of the hard disk's condition over a network.<br><br>While S.M.A.R.T. looks like a really great safety feature, it isn't really that useful or even necessary for most users. For S.M.A.R.T. to work, it is not just a matter of enabling it in the BIOS. You must also keep a S.M.A.R.T.-aware hardware monitoring utility running in the background all the time. | Enabled<br>**Disabled** |
| Silent Boot | This features allows you to enable or disable if the screen logo to display or no during POST | **Enabled**<br>Disabled |
| Small Logo (EPA) Show | This BIOS feature determines if the EPA (Environmental Protection Agency) Energy Star logo will appear during the system boot-up process.<br><br>When it is enabled, the BIOS will display the EPA Energy Star logo during the boot-up sequence.<br><br>When it is disabled, the BIOS will not display the EPA Energy Star logo during the boot-up sequence.<br><br>Please note that enabling this BIOS feature may potentially delay the boot-up process by 2-3 seconds, which ensures that the logo is displayed for a sufficient amount of time.<br><br>Therefore, it is recommended that you disable this BIOS feature for a faster boot-up time. | Enabled<br>**Disabled** |

| Parameter | Description | Options |
|---|---|---|
| Configuration Table | This feature allows you to enable or disable if showing summary screen or not | Enabled<br>Disabled |

## CPU Feature

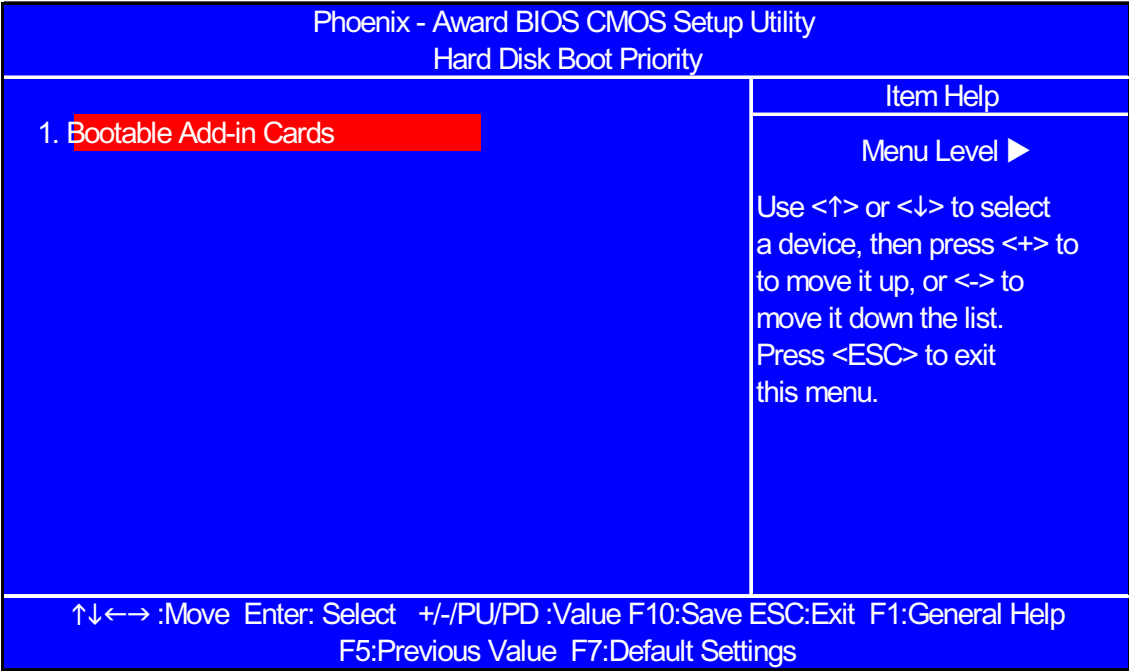The following screen shows the Advanced BIOS Features:

```
          Phoenix - Award BIOS CMOS Setup Utility
                       CPU Feature
┌─────────────────────────────────────────┬──────────────────────┐
│                                          │      Item Help       │
│  Thermal Management        [Enabled]     │  Menu Level ▶        │
│  Limit CPUID MaxVal        [Disabled]    │                      │
│  C1E Function              [Auto]        │  When enabled, TM    │
│  Execute Disable Bit       [Enabled]     │  function depend on  │
│  Virtualization Technology [Enabled]     │  CPU supported       │
│  Intel(R)SpeedStep(tm)Tech. [Enabled]    │                      │
│                                          │                      │
│                                          │                      │
└──────────────────────────────────────────┴─────────────────────┘
  ↑↓←→ :Move  Enter: Select   +/-/PU/PD :Value F10:Save ESC:Exit  F1:General Help
              F5:Previous Value  F7:Default Settings
```

| Parameter | Description | Options |
|---|---|---|
| Thermal Management | This item enables or disables thermal management function for CPU. | Enabled<br>Disabled |
| Limit CPUID MaxVal | When the computer is booted up, the operating system executes the CPUID instruction to identify the processor and its capabilities. Before it can do so, it must first query the processor to find out the highest input value CPUID recognizes. This determines the kind of basic information CPUID can provide the operating system.<br><br>The maximum CPUID input value determines the values that the operating system can write to the CPUID's EAX register to obtain information about the processor. | Enabled<br>Disabled |

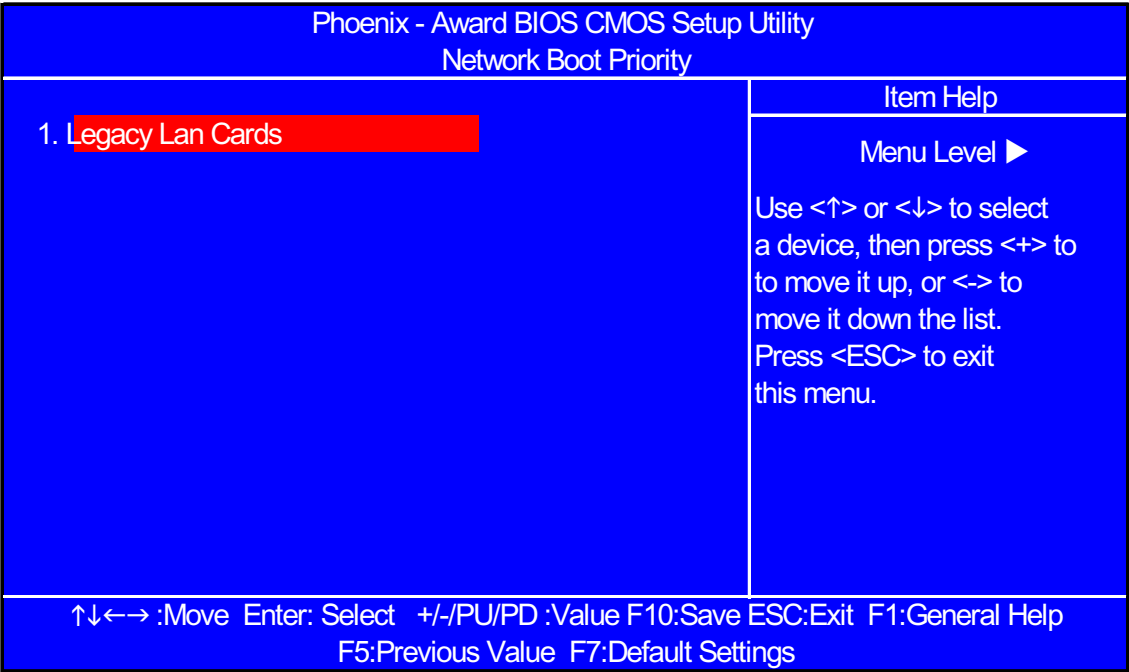| Parameter | Description | Options |
|---|---|---|
| C1E Function | Also called "Enhanced Halt State" function. It is improved function for Intel (R) Pentium 4 processor C1 Halt state. The operating system will send out HLT command to the processor while the system loading is not high. This allows the processor to enter power-saving C1 halt state and to reduce the loading for the processor. Basically, C1E function is very similar to C1 Halt State. The difference is C1E function can lower down the processor's voltage and clock rate. C1E function together with EIST can provide a better energy-saving environment for the processor. | Auto<br>Enabled<br>Disabled |
| Execute Disable Bit | This BIOS feature is actually a toggle for the processor's Execute Disable Bit feature. In fact, the acronym XD is short for Execute Disable and is specific to Intel's implementation. AMD's implementation is called NX, short for No Execute.<br><br>When enabled, the processor prevents the execution of code in data-only memory pages. This provides some protection against buffer overflow attacks.<br><br>When disabled, the processor will not restrict code execution in any memory area. This makes the processor more vulnerable to buffer overflow attacks.<br><br>It is highly recommended that you enable this BIOS feature for increased protection against buffer overflow attacks. | Enabled<br>Disabled |
| Virtualization Technology | This item allows you to enable or disable Intel (R) Virtualization Technology function. | Enabled<br>Disabled |
| Intel(R)SpeedStep(tm) Tech. | Enables or disables Intel(R)SpeedStep(tm) Tech. function. | Enabled<br>Disabled |

## Hard Disk Boot Priority

The following screen shows the hard disk boot priority:

```
┌─────────────────────────────────────────────────────────────────────────────┐
│                    Phoenix - Award BIOS CMOS Setup Utility                    │
│                          Hard Disk Boot Priority                              │
├───────────────────────────────────────────────────┬─────────────────────────┤
│                                                     │        Item Help        │
│   1. Bootable Add-in Cards                          ├─────────────────────────┤
│                                                     │      Menu Level ▶        │
│                                                     │                          │
│                                                     │  Use <↑> or <↓> to select│
│                                                     │  a device, then press <+>to│
│                                                     │  to move it up, or <-> to │
│                                                     │  move it down the list.  │
│                                                     │  Press <ESC> to exit     │
│                                                     │  this menu.              │
│                                                     │                          │
│                                                     │                          │
│                                                     │                          │
│                                                     │                          │
├───────────────────────────────────────────────────┴─────────────────────────┤
│  ↑↓←→ :Move  Enter: Select   +/-/PU/PD :Value F10:Save ESC:Exit  F1:General Help│
│                     F5:Previous Value  F7:Default Settings                     │
└─────────────────────────────────────────────────────────────────────────────┘
```

| Parameter | Description | Options |
|-----------|-------------|---------|
| Bootable Add-in Cards | Displays the bootable device order. | N/A |

## Network Boot Priority

The following screen shows the network boot priority:

```
            Phoenix - Award BIOS CMOS Setup Utility
                  Network Boot Priority
┌──────────────────────────────────┬─────────────────────────┐
│                                   │        Item Help        │
│  1. Legacy Lan Cards              ├─────────────────────────┤
│                                   │      Menu Level  ▶       │
│                                   │                         │
│                                   │ Use <↑> or <↓> to select│
│                                   │ a device, then press <+> to │
│                                   │ to move it up, or <-> to │
│                                   │ move it down the list.  │
│                                   │ Press <ESC> to exit     │
│                                   │ this menu.              │
│                                   │                         │
│                                   │                         │
│                                   │                         │
│                                   │                         │
├──────────────────────────────────┴─────────────────────────┤
│ ↑↓←→ :Move  Enter: Select  +/-/PU/PD :Value F10:Save ESC:Exit  F1:General Help │
│           F5:Previous Value  F7:Default Settings            │
└─────────────────────────────────────────────────────────────┘
```

| Parameter | Description | Options |
|-----------|-------------|---------|
| Legacy Lan Cards | Displays the bootable device order. | N/A |

# Advanced Chipset Features

```
                Phoenix - Award BIOS CMOS Setup Utility
                       Advanced Chipset Features
┌─────────────────────────────────────────────────┬─────────────────────┐
│                                                   │     Item Help       │
│  System BIOS Cacheable        [Enabled]           ├─────────────────────┤
│  Memory Hole at 15M-16M       [Disable]           │   Menu Level ▶      │
│ ▶ PCI Express Root Port Func  [Press Enter]       │                     │
│                                                   │                     │
│  **  VGA Setting  **                              │                     │
│  On-Chip Frame Buffer Size    [8MB]               │                     │
│  DVMT Mode                    [DVMT]              │                     │
│  DVMT/FIXED Memory Size       [256MB]             │                     │
│                                                   │                     │
│                                                   │                     │
│                                                   │                     │
│                                                   │                     │
├───────────────────────────────────────────────────┴─────────────────────┤
│ ↑↓←→ :Move  Enter: Select   +/-/PU/PD :Value F10:Save ESC:Exit  F1:General Help │
│             F5:Previous Value  F7:Default Settings                        │
└──────────────────────────────────────────────────────────────────────────┘
```

| Parameter | Description | Options |
|-----------|-------------|---------|
| System BIOS Cacheable | Enabling this feature allows the caching of the motherboard BIOS ROM from F0000h to FFFFFh by the processor's Level 2 cache. This greatly speeds up accesses to the BIOS. <br><br> However, this does not translate into better system performance because modern operating systems like Microsoft Windows XP do not need to communicate with the hardware via the BIOS. Current operating systems make use of drivers to access the hardware directly. <br><br> Therefore, it would be a waste of the Level 2 cache's bandwidth if the motherboard BIOS was cached instead of data that are more critical to the system's performance. <br><br> In addition, if any errant program writes into this memory area, it will result in a system crash. Therefore, it is highly recommended that you disable this feature for better system performance. | Enabled <br> Disabled |

| Parameter | Description | Options |
|---|---|---|
| Memory Hole at 15M-16M | Certain ISA cards require exclusive access to the 1MB block of memory, from the 15th to the 16th megabyte, to work properly. This BIOS feature allows you to reserve that 1MB block of memory for such cards to use.<br><br>If you enable this feature, 1MB of memory (the 15th MB) will be reserved exclusively for the ISA card's use. This effectively reduces the total amount of memory available to the operating system by 1MB.<br><br>Please note that in certain motherboards, enabling this feature may actually render all memory above the 15th MB unavailable to the operating system!<br><br>If you disable this feature, the 15th MB of RAM will not be reserved for the ISA card's use. The full range of memory is therefore available for the operating system to use. However, if your ISA card requires the use of that memory area, it may then fail to work.<br><br>Since ISA cards are a thing of the past, it is highly recommended that you disable this feature. Even if you have an ISA card that you absolutely have to use, you may not actually need to enable this feature.<br><br>Most ISA cards do not need exclusive access to this memory area. Make sure that your ISA card requires this memory area before enabling this feature. You should use this BIOS feature only in a last-ditch attempt to get a stubborn ISA card to work. | Enabled<br>Disabled |
| PCI Express Root Port Func | Press [Enter] to enter the sub menu to select PCI Express Root Port Function | Use ↑ → to select a device, then press<+> to move it up, or < -> to move it down the list. |

| Parameter | Description | Options |
|---|---|---|
| On-Chip Frame Buffer Size | This BIOS feature controls the amount of system memory that is allocated to the integrated graphics processor when the system boots up. However, its effect depends on whether your motherboard supports the older Unified Memory Architecture (UMA) or the new Dynamic Video Memory Technology (DVMT). <br><br> If you have a motherboard that supports UMA, the memory size you select determines the maximum amount of system memory that is allocated to the graphics processor. Once allocated, it can only be used as graphics memory. It is no longer accessible to the operating system or applications. <br><br> Therefore, it is recommended that you select the absolute minimum amount of system memory that the graphics processor requires for your monitor. You can calculate it by multiplying the resolution and colour depth that you are using. Of course, if you intend to play 3D games, you will need to allocate more memory. <br><br> If you have a motherboard that supports DVMT, the memory size you select determines the maximum amount of system memory that is pre-allocated to the graphics processor. Once allocated, it can only be used as graphics memory. It is no longer accessible to the operating system or applications. <br><br> However, unlike in a UMA system, this memory is only allocated for use during the boot process or with MS-DOS or legacy operating systems. Additional system memory is allocated only after the graphics driver is loaded. It is recommended that you set it to 8MB as this allows for high-resolution splash screens as well as higher resolutions in MS-DOS applications and games. | 1MB, 4MB, 8MB, 16MB, 32MB, 64MB, 128MB (for UMA) <br><br> 1MB, 8MB (for DVMT) |

| Parameter | Description | Options |
|---|---|---|
| DVMT Mode | Unified Memory Architecture (UMA) is a concept whereby system memory is shared by both CPU and graphics processor. While this reduces cost, it also reduces the system's performance by taking up a large portion of memory for the graphics processor.<br><br>Intel's Dynamic Video Memory Technology (DVMT) takes that concept further by allowing the system to dynamically allocate memory resources according to the demands of the system at any point in time. The key idea in DVMT is to improve the efficiency of the memory allocated to either system or graphics processor.<br><br>The BIOS feature that controls all this is the DVMT Mode BIOS feature. It allows you to select the DVMT operating mode.<br><br>When set to Fixed, the graphics driver will reserve a fixed portion of the system memory as graphics memory. This ensures that the graphics processor has a guaranteed amount of graphics memory but the downside is once allocated, this memory cannot be used by the operating system even when it is not in use.<br><br>When set to DVMT, the graphics chip will dynamically allocate system memory as graphics memory, according to system and graphics requirements. The system memory is allocated as graphics memory when graphics-intensive applications are running but when the need for graphics memory drops, the allocated graphics memory can be released to the operating system for other uses.<br><br>When set to Both, the graphics driver will allocate a fixed amount of memory as dedicated graphics memory, as well as allow more system memory to be dynamically allocated between the graphics processor and the operating system.<br><br>It is recommended that you set this BIOS feature to DVMT for maximum performance. Setting it to DVMT ensures that system memory is dynamically allocated for optimal balance between graphics and system performance. | Fixed, DVMT, Both |

| Parameter | Description | Options |
|---|---|---|
| DVMT/FIXED Memory Size | Unified Memory Architecture (UMA) is a concept whereby system memory is shared by both CPU and graphics processor. While this reduces cost, it also reduces the system's performance by taking up a large portion of memory for the graphics processor.<br><br>Intel's Dynamic Video Memory Technology (DVMT) takes that concept further by allowing the system to dynamically allocate memory resources according to the demands of the system at any point in time. The key idea in DVMT is to improve the efficiency of the memory allocated to either system or graphics processor.<br><br>This is where the DVMT/FIXED Memory BIOS feature comes in. It allows you to set the maximum amount of system memory that can be allocated as graphics memory, but only for the Fixed or DVMT operating modes. When the DVMT + Fixed mode is selected, this BIOS feature is grayed out because when in that operating mode, the graphics driver automatically allocates a total of 128MB of graphics memory.<br><br>When set to 64MB, up to 64MB of system memory can be used as graphics memory.<br><br>When set to 128MB, up to 128MB of system memory can be used as graphics memory.<br><br>Generally, you can leave this BIOS feature at the default setting of 128MB. This setting works well in systems with lots of memory (768MB or more). But if you have 384MB or less of system memory, it is highly recommended that you restrict the amount of DVMT memory to 64MB. Intel's graphics processors are not so fast that allocating huge amounts of memory is going to have any significant effect on their performance. | 64MB, 128MB |

# Integrated Peripherals

All onboard peripherals can be set up through this menu.

```
┌────────────────────────────────────────────────────────────────────────┐
│              Phoenix - Award BIOS CMOS Setup Utility                      │
│                      Integrated Peripherals                               │
├──────────────────────────────────────────────┬───────────────────────────┤
│  SATA Mode              AHCI                  │                           │
│  USB Controller         [Enabled]            │        Item Help          │
│  USB 2.0 Controller     [Enabled]            ├───────────────────────────┤
│  USB Keyboard Support   [Enabled]            │  Menu Level  ▶            │
│  USB Mouse Support      [Enabled]            │                           │
│  Onboard 1394 Controller [Enabled]           │                           │
│  Onboard LAN Controller [Enabled]            │                           │
│  Onboard Lan Boot ROM   [Disabled]           │                           │
│                                               │                           │
│                                               │                           │
│                                               │                           │
│                                               │                           │
│                                               │                           │
│                                               │                           │
│                                               │                           │
├──────────────────────────────────────────────┴───────────────────────────┤
│ ↑↓←→ :Move  Enter: Select  +/-/PU/PD :Value F10:Save  ESC:Exit  F1:General Help│
│              F5:Previous Values  F7:Default Settings                       │
└────────────────────────────────────────────────────────────────────────┘
```

| Parameter | Description | Options |
|-----------|-------------|---------|
| SATA Mode | This BIOS feature controls the SATA controller's operating mode. There are three available modes - IDE, SATA or AHCI and RAID.<br><br>When set to SATA or AHCI, the SATA controller enables its AHCI features when the computer boots up.<br><br>When set to RAID, the SATA controller enables its RAID and AHCI functions when the computer boots up.<br><br>When set to IDE, the SATA controller disables its RAID and AHCI functions when the computer boots up. | RAID, SATA or AHCI, IDE |

| Parameter | Description | Options |
|---|---|---|
| USB Controller | This BIOS feature enables or disables the motherboard's onboard USB controller.<br><br>It is recommend that you enable this feature so that you can use the onboard USB controller to communicate with your USB devices.<br><br>If you disable this feature, the USB controller will be disabled and you will not be able to use it to communicate with any USB device. This frees up an IRQ for other devices to use. This is useful when you have many devices that cannot share IRQs. | Enabled<br>Disabled |
| USB 2.0 Controller | Enable this item if the system supports USB 2.0 | **Enabled** : Enable USB 2.0 Controller<br>Disabled : Disable USB 2.0 Controller |
| USB Keyboard/Mouse Support | This BIOS feature determines if support for the USB keyboard/mouse should be provided or not. | Enabled<br>Disabled |
| Onboard 1394/LAN Controller | This BIOS feature enables or disables the motherboard's onboard 1394/LAN controller.<br><br>It is recommend that you enable this feature so that you can use the onboard 1394/LAN controller to communicate with your 1394/LAN devices.<br><br>If you disable this feature, the 1394/LAN controller will be disabled and you will not be able to use it to communicate with any 1394/LAN device. This frees up an IRQ for other devices to use. This is useful when you have many devices that cannot share IRQs. | Enabled<br>Disabled |
| Onboard Lan Boot ROM | | Enabled<br>**Disabled** |

# Power Management Setup

The Power Management menu lets you configure your system to most effectively save energy while operating in a manner consistent with your own style of computer use.

```
                    Phoenix - Award BIOS CMOS Setup Utility
                           Power Management Setup

   ACPI Function                 [Enabled]
   ACPI Suspend Type             [S3(STR)]                    Item Help
   Soft-Off by PWR-BTTN          [Delay 4 Sec]
   Energy Lake Function          [Enabled]                  Menu Level ▶
   Wake-Up by Onboard Lan        [Enabled]
   USB KB Wake-Up From S3        [Disabled]
   Resume by Alarm               [Disabled]
 x  Date(of Month) Alarm         0
 x  Time(hh:mm:ss) Alarm         00:00:00

   ** Reload Global Timer Events **
   PWON After PWR-Fail           [Off]




   ↑↓←→ :Move  Enter: Select   +/-/PU/PD :Value F10:Save  ESC:Exit  F1:General Help
                   F5:Previous Values  F7:Default Settings
```

| Parameter | Description | Options |
|---|---|---|
| ACPI Function | This BIOS feature is used to enable or disable the motherboard's APIC (Advanced Configuration and Power Interface). The ACPI provides multiprocessor support, more IRQs and faster interrupt handling. However, it is only supported by newer operating systems like Microsoft Windows NT, Windows 2000 and Windows XP. Older operating systems like DOS or Windows 95/98 do not support this feature. It is recommended that you enable this feature if you are using a newer operating system like Windows XP. Disable it only if you are using an older operating system like DOS or Windows 95/98. | Disabled Enabled |
| ACPI Suspend Type | This item specifies the power saving modes for ACPI function.  S1(POS): The S1 sleep mode is a low power state. In this state, no system context (CPU or chipset) is lost and hardware maintains all system context.  S3 (STR): The S3 sleep mode is s power-down state in which power is supplied only to essential components such as main memory and wake-capable devices and all system context is saved to main memory.  The information stored in memory will be used to restore the PC to the previous state when an wake-up event occurs. | S1 (POS) : Set ACPI suspend type to S1/POS(Power On Suspend). **S3 (STR)** : Set ACPI suspend type to S3/STR |

| Parameter | Description | Options |
|---|---|---|
| Soft-Off by PWR-BTTN | This feature allows users to configure the power button function. | Instand-off : Press down button then power off instantly<br>**Delay 4 Sec**. : Press power button 4 sec. to power off. Enter suspend if button is pressed less than 4 sec. |
| Energy Lake Function | | |
| Wake-Up by Onboard Lan | | |

# PnP/PCI Configuration

```
                Phoenix - Award BIOS CMOS Setup Utility
                        PNP/PCI Configurations
  Reset Configuraton Data         [Disabled]
                                                         Item Help

  Resources Controlled By         [Auto(ESCD)]           Menu Level ▶
X  IRQ Resources                    Press Enter
                                                         Default is Disabled.
  PCI/VGA Palette Snoop           [Disabled]             Select Enabled to
  INT Pin 1 Assignment            [Auto]                 reset Extended System
  INT Pin 2 Assignment            [Auto]                 Configuration Data
  INT Pin 3 Assignment            [Auto]                 ESCD) when you exit
  INT Pin 4 Assignment            [Auto]                 Setup if you have
  INT Pin 5 Assignment            [Auto]                 installed an new add-on
  INT Pin 6 Assignment            [Auto]                 and the system
  INT Pin 7 Assignment            [Auto]                 reconfiguration has
  INT Pin 8 Assignment            [Auto]                 caused such as serious
                                                         conflict that the OS
  ** PCI Express relative items **                       cannot boot
  Maximum Payload Size            [128]


 ↑↓←→ :Move  Enter: Select  +/-/PU/PD :Value F10:Save  ESC:Exit  F1:General Help
                 F5:Previous Values  F7:Default Settings
```

| Parameter | Description | Options |
|---|---|---|
| Reset Configuration Data | In case a conflict occurs after you assign the IRQs or after you configure your system, you can enable this function to allow your system to automatically reset your configuration and reassign the IRQs, DMAs and I/O address. | **Disabled**, Enabled |
| Resources Controlled By | if this option is set to Auto, the BIOS automatically selects all the devices Plug & Play compatible specifying their Interrupt and DMA. If you selected the manual setting, you can specify the device for each interrupt it is assigned to (ISA o PCI); this is the same for DMAs. | **Auto (ESCD)**, Manual |
| PCI/VGA Palette Snoop | Enable this option to correct screen color shifts, when there is a combination of VGA cards, accelerator cards, or MPEG cards present. | **Disabled**, Enabled |
| INT Pin 1-8 Assignment | | |
| Maximum Payload Size | This item allows you to select the payload size for PCI Express device's maximum TLP (Transmission Level Point). | 128, 256, 512, 1024, 2048, 4096 |

# PC Health Status

```
                    Phoenix - Award BIOS CMOS Setup Utility
                              PC Health Status
  ┌─────────────────────────────────────────────────┬──────────────────────┐
  │ ▶Advanced Fan Speed Control        [Press Enter] │      Item Help       │
  │                                                  ├──────────────────────┤
  │  CPU FAN Speed                      2871 RPM     │  Menu Level ▶        │
  │  SYS FAN Speed                      2719 RPM     │                      │
  │  CPU core voltage                   1.28V        │                      │
  │  +3.3V                              3.28V        │                      │
  │  +5V                                5.10V        │                      │
  │  +12V                               12.08V       │                      │
  │  DIMM voltage                       1.76V        │                      │
  │  CPU Tempature                      58ºC         │                      │
  │  Shutdown Tempature                [Disabled]    │                      │
  │                                                  │                      │
  │                                                  │                      │
  ├──────────────────────────────────────────────────────────────────────┤
  │ ↑↓←→ :Move  Enter: Select  +/-/PU/PD :Value F10:Save  ESC:Exit  F1:General Help │
  │            F5: Previous Values  F7:Default Settings                     │
  └────────────────────────────────────────────────────────────────────────┘
```

The following table describes the parameters found in this menu:

| Parameter | Description | |
|---|---|---|
| Advanced Fan Speed Control | Press [Enter] to enter the sub menu to see advanced fan speed control | Use ↑ ↓ to select a device, then press<+> to move it up, or < - > to move it down the list. |
| CPU FAN Speed | This field displays CPU fan speed. The system detects CPU fan speed status automatically. | Displays CPU fan speed directly. |
| SYS FAN Speed | This field displays system fan speed. The system detects system fan speed status automatically | Displays system fan speed directly. |
| CPU core voltage | This field displays CPU core voltage. The system detects CPU core voltage automatically. | Displays CPU core voltage directly. |
| DIMM voltage | This field displays DIMM voltage. The system detects DIMM voltage automatically. | Displays DIMM voltage directly. |
| CPU Tempature | This field displays CPU tempature. The system detects CPU tempature automatically. | Displays CPU tempature. |
| Shutdown Tempature | This feature allow to set the Shutdown temperature. | 90° C/194° F  Disabled |

# Frequency Control

```
                 Phoenix - AwardBIOS CMOS Setup Utility
                           Frequency Control
   Auto Detect PCI Clk          [Enabled]
   Spread Spectrum              [Enabled]                  Item Help
   CPU Host/SRC/PCI Clock         [Enabled]
                                                    Menu Level  ▶




   ↑↓←→ :Move  Enter: Select   +/-/PU/PD :Value F10:Save  ESC:Exit  F1:General Help
                    F5:Previous Values  F7:Default Settings
```

| Parameter | Description | |
|---|---|---|
| Auto Detect PCI Clk | To reduce the occurrence of electromagnetic interference (EMI), the BIOS detects the presence or absence of components in DIMM and PCI slots and turns off system clock generator pulses to empty slots. | Enabled<br>Disabled |
| Spread Spectrum | This feature allows to enable/disable the Spread Spectrum modulate. | Enabled<br>Disabled |
| CPU Host/SRC/PCI Clock | Select Default or select a timing combination for the CPU and the PCI bus. When set to Default, the BIOS uses the actual CPU and PCI bus clock values. | Enabled<br>Disabled |

# Load Default Settings

Selecting the field loads the factory defaults for BIOS and Chipset Features which the system automatically. detects.

```
                Phoenix - Award BIOS CMOS Setup Utility
▶ Product Information              ▶ PC Health Status
▶ Standard CMOS Features           ▶ Frequency Control
▶ Advanced BIOS Features             Load Default Settings
▶ Advanced Chipset Features          Set Supervisor Password
▶ Integrated Periphera  Load Optimized Default?(Y/N)    Password
▶ Power Management Setup             Save & Exit Setup
▶ PnP/PCI Configurations             Exit Without Saving

   Esc:Quit                    ↑↓←→ : Select
   F10: Save & Exit Setup

                   Load Default Settings
```

# Set Supervisor/User Password

When this function is selected, the following message appears at the center of the screen to assist you in creating a password.

```
            Phoenix - Award BIOS CMOS Setup Utility
▶ Product Information              ▶ PC Health Status
▶ Standard CMOS Features           ▶ Frequency Control
▶ Advanced BIOS Features              Load Default Settings
▶ Advanced Chipset Features           Set Supervisor Password
▶ Integrated Periphera  Enter Password:          Password
▶ Power Management Setup               Save & Exit Setup
▶ PnP/PCI Configurations               Exit Without Saving

  Esc:Quit                    ↑↓←→ : Select
  F10: Save & Exit Setup

              Change/Set/Disable Password
```

The access rights and permission associated with the Supervisor password are higher than those os a regular

User password. The Supervisor password can be used to start the system or modify the CMOS settings.

The User password can also start the system. While the User password

# Save & Exit Setup

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility.

```
CMOS Setup Utility - Copyright (C) 1984-2005 Award Software
▶ Product Information            ▶ PC Health Status
▶ Standard CMOS Features         ▶ Frequency Control
▶ Advanced BIOS Features            Load Default Settings
▶ Advanced Chipset Features         Set Supervisor Password
▶ Integrated Periphera   Save to CMOS and Exit (Y/N)?N
▶ Power Management Setup             Save & Exit Setup
▶ PnP/PCI Configurations             Exit Without Saving

  Esc:Quit                      ↑↓←→ : Select
  F10: Save & Exit Setup
```
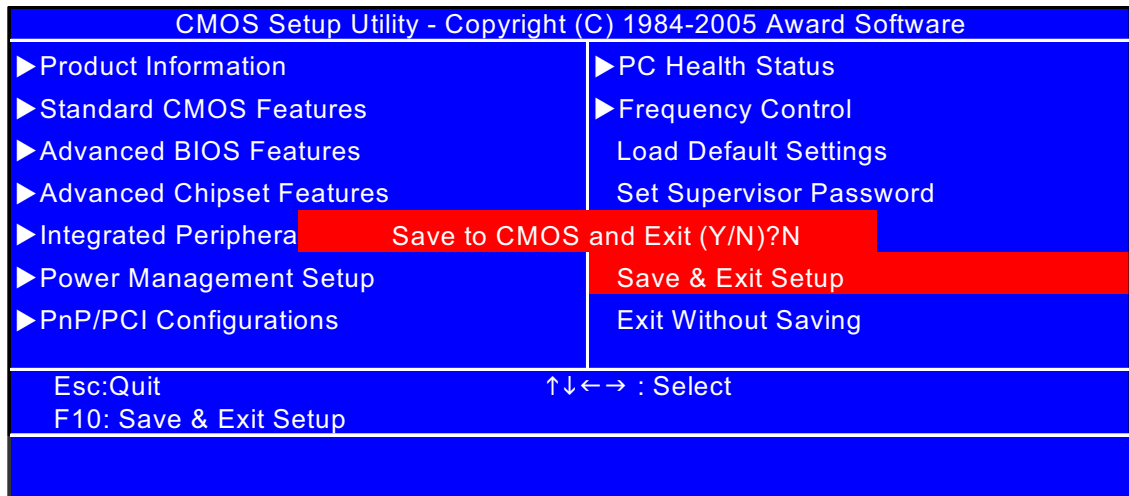
When the Save and Exit dialog box appears, press <Y> to save and exit, or press <N> to return to the main menu.

# Exit Without Saving

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility.

```
        CMOS Setup Utility - Copyright (C) 1984-2005 Award Software
▶ Product Information                    ▶ PC Health Status
▶ Standard CMOS Features                 ▶ Frequency Control
▶ Advanced BIOS Features                   Load Default Settings
▶ Advanced Chipset Features                Set Supervisor Password
▶ Integrated Periphera  Quit Without Saving(Y/N)? Y      Password
▶ Power Management Setup                   Save & Exit Setup
▶ PnP/PCI Configurations                   Exit Without Saving

  Esc:Quit                        ↑↓←→ : Select
  F10: Save & Exit Setup
```
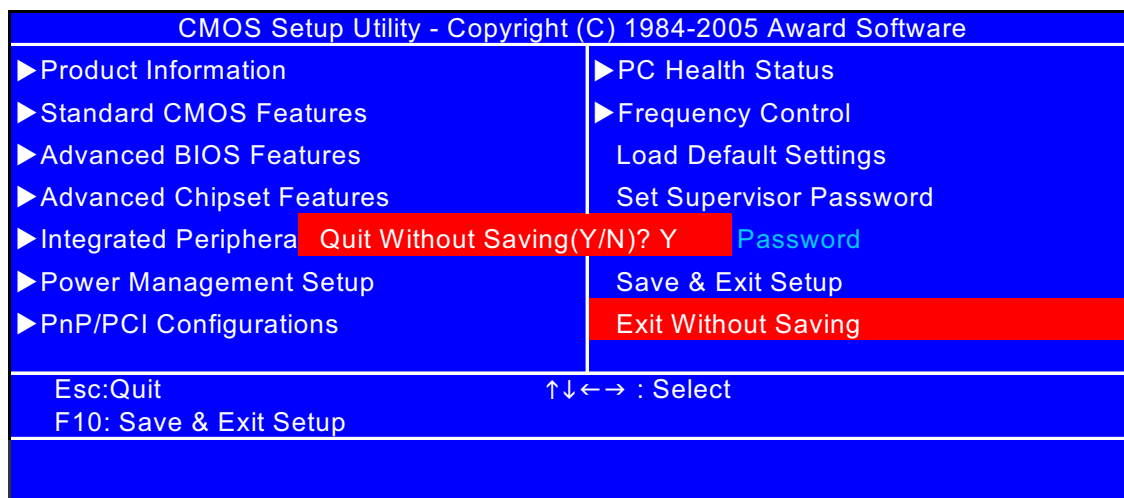
When the Exit Without Saving dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.

**NOTE:** If you have made settings that you do not want to save, use the "Exit Without Saving" item and press <Y> to discard any changes you have made.

# Machine Disassembly and Replacement

This chapter will guide you how to disassemble and Reassemble the Aspire L350/Veriton 1000.

To disassemble the computer, you need the following tools:

❑ Wrist grounding strap and conductive mat for preventing electrostatic discharge.

❑ Wire cutter.

❑ Phillips screwdriver (may require different size).

**NOTE:** The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatches when putting back the components.

# General Information

## Before You Begin

Before proceeding with the disassembly procedure, make sure that you do the following:

1. Turn off the power to the system and all peripherals.
2. Unplug the AC adapter and all power and signal cables from the system.

# Aspire L350 Disassembly Procedure

This section tells you how to disassemble the system when you need to perform system service. Please also refer to the disassembly video, if available.

**CAUTION:** Before you proceed, make sure you have turned off the system and all peripherals connected to it.

## Removing the Stand Assembly

**1.** Remove the screw holding the stand assembly.
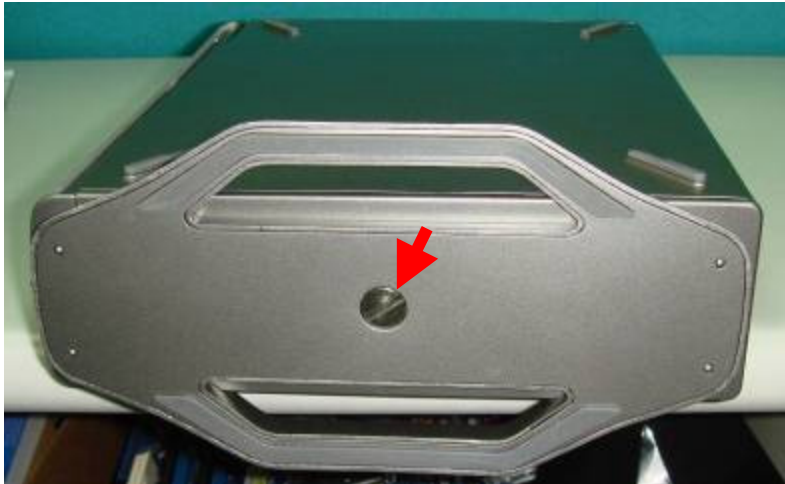


**2.** Then detach the system from the stand assembly.

# Removing the Top Cover and Front Bezel Assembly

**1.** Remove the screw fastening the top cover.



**2.** Remove the top cover from the system.



**3.** Pull up the three locks as shown.
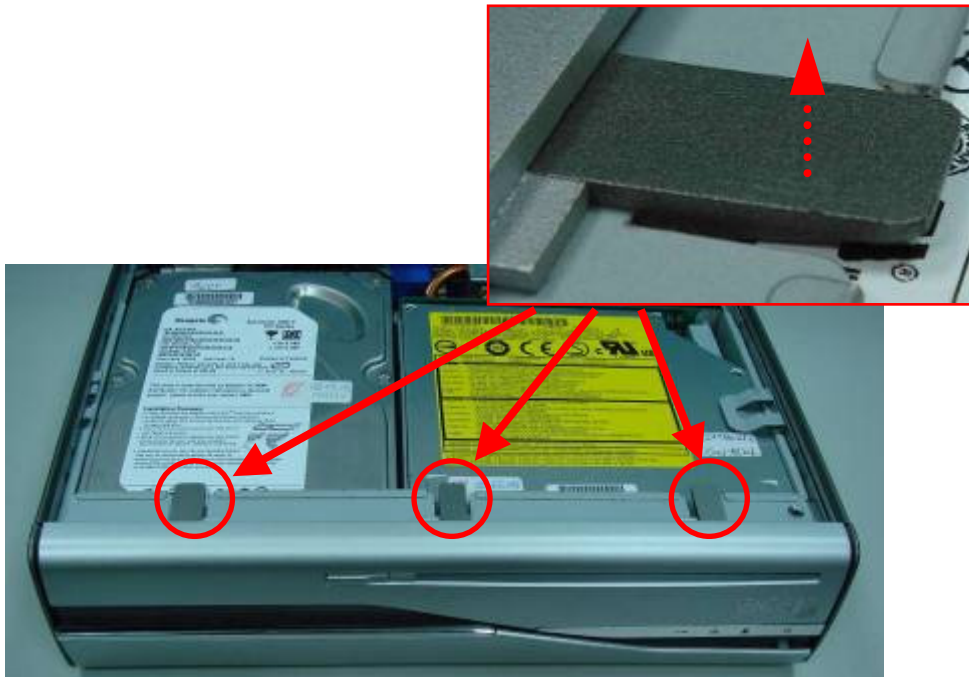
**4.** Detach the front bezel from the system.
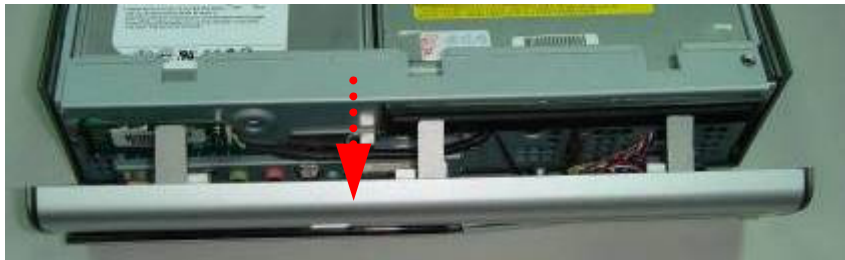


**5.** Place the front bezel as shown.
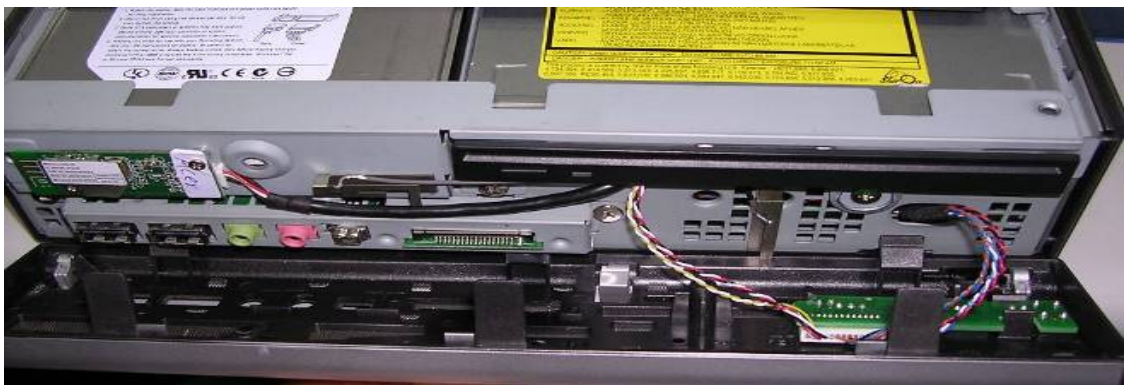


**6.** Release the hooks holding the PCB card.
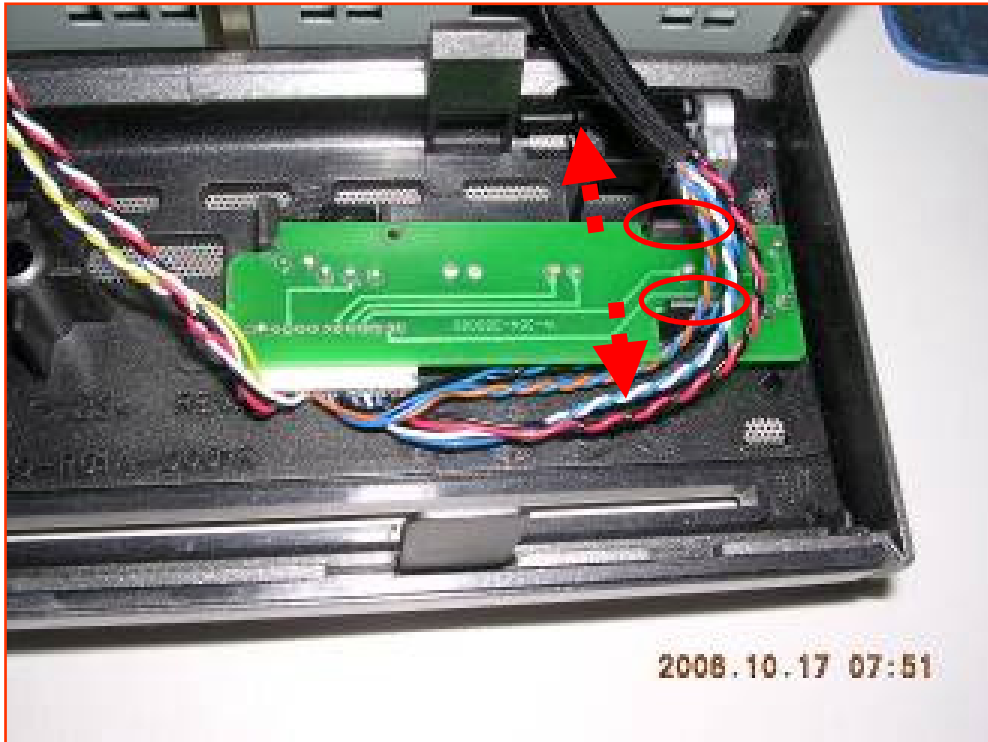
**7.** Detach the PCB card from the left side. You can then remove the front bezel.
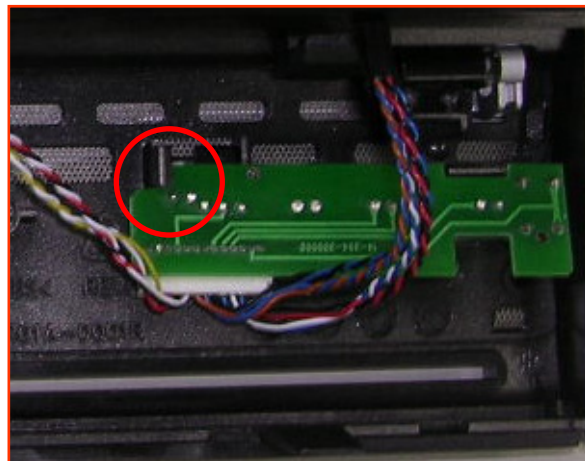


# Removing the RF Keyboard/Mouse Antenna and ODD Module

**1.** Remove the two screws holding the RF keyboard/mouse antenna.
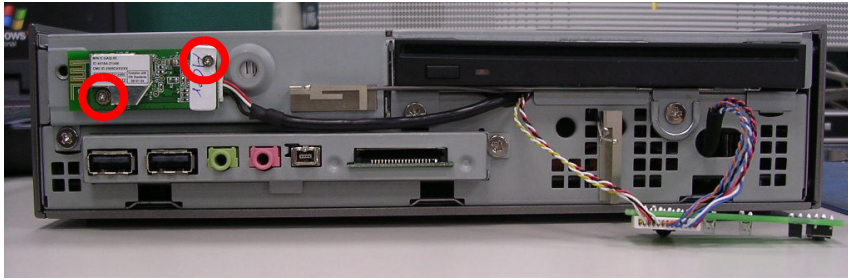
**2.** Then disconnect the RF keyboard/mouse antenna as shown.



**3.** If you only need to remove the ODD module, you can remove the screw holding the ODD module to the system as shown.
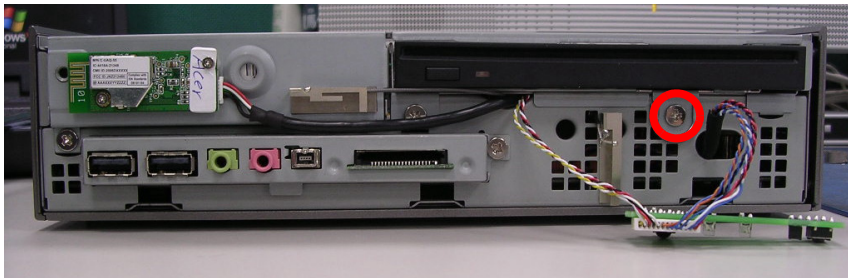


**4.** Then push the ODD module outwards as shown.



**5.** Remove the two screws fastening the ODD bracket to the ODD.

**6.** Detach the ODD bracket from the ODD.



# Removing the Cage Assembly

**1.** Remove the three screws holding the cage assembly to the system.
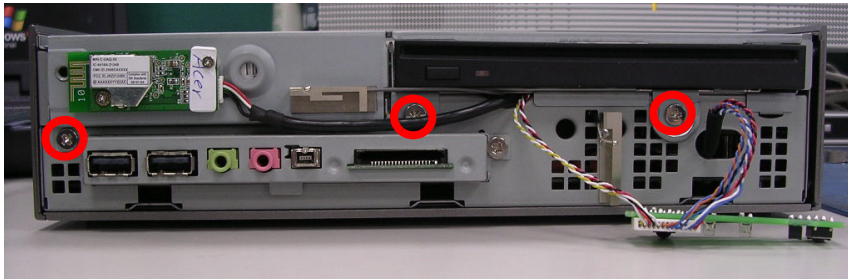


**2.** There are four fastening hooks holding the cage assembly.



**3.** See the closeup for the fastening hooks below.

**4.** Push the cage assembly outwards (step 1), then hold the cage plastic belt to lift the cage assembly (step 2).
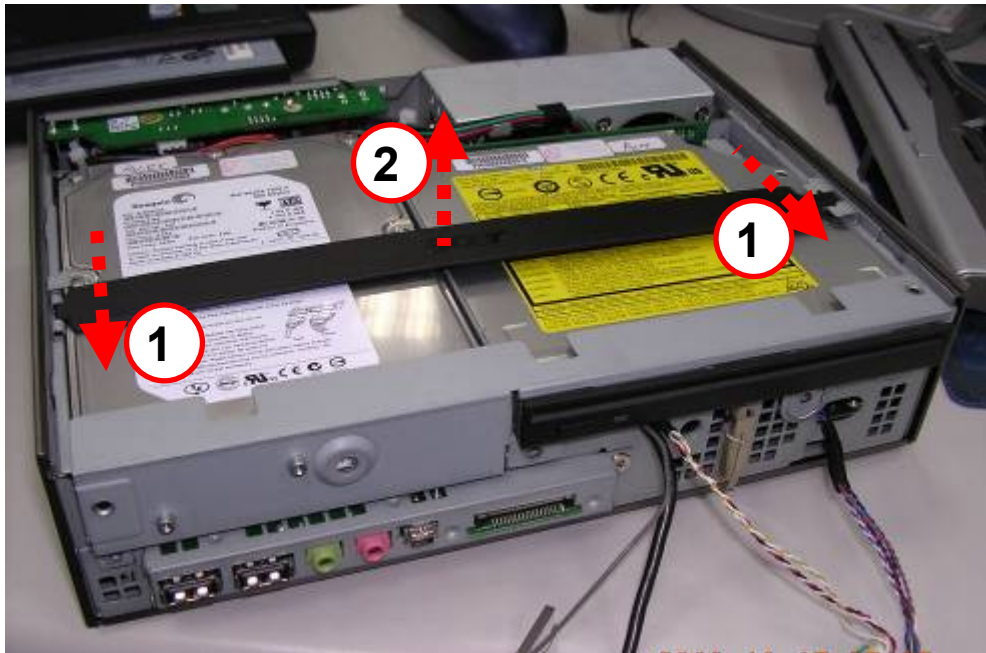


**5.** Disconnect the cables as shown.
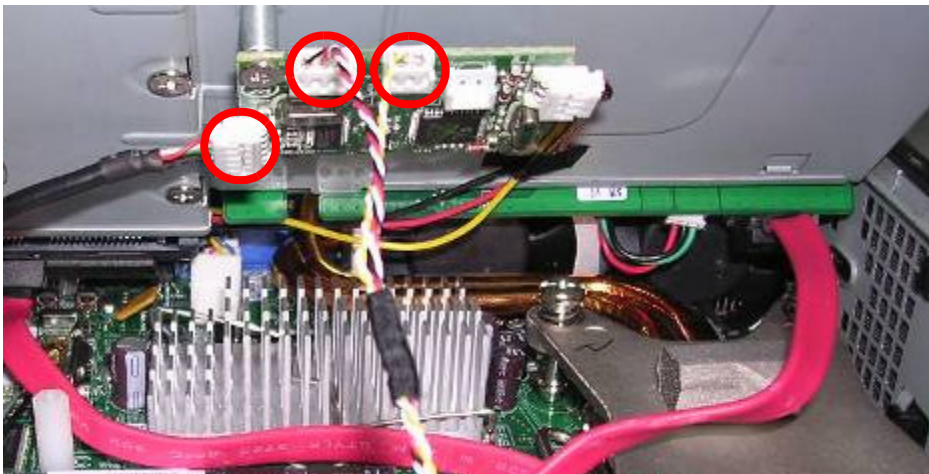


**6.** Disconnect the cables.
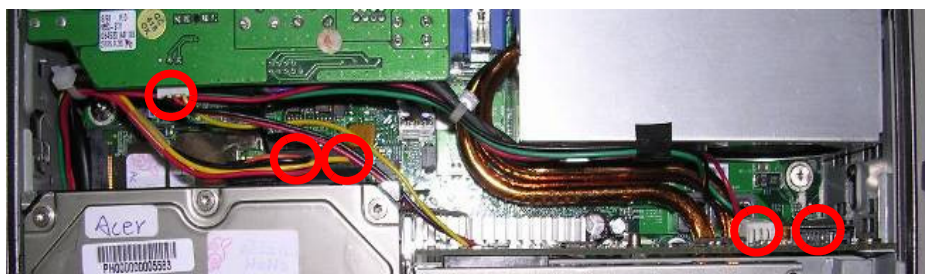
**7.** Lift the cage assembly.



**8.** Disconnect the antennae then remove the cage assembly.



# Removing the HDD and the MCE Board

**1.** Remove the two screws holding the MCE board to the HDD/ODD bracket. Then detach the MCE board and disconnect the MCE cable from the MCE board.

**2.** Remove the four screws holding the HDD to the HDD/ODD bracket.
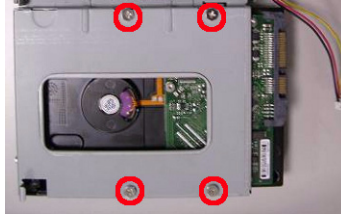


**3.** Push the HDD out of the HDD/ODD bracket.
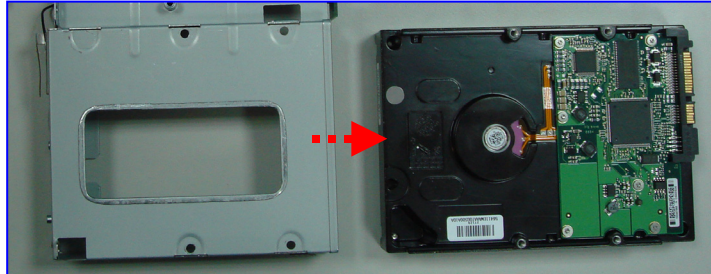


**4.** Remove the screw fastening the ODD transfer board on the HDD/ODD bracket, then push the ODD transfer board to the left to detach the board.

# Removing the Front IO Assembly

1. Disconnect the cables as shown.
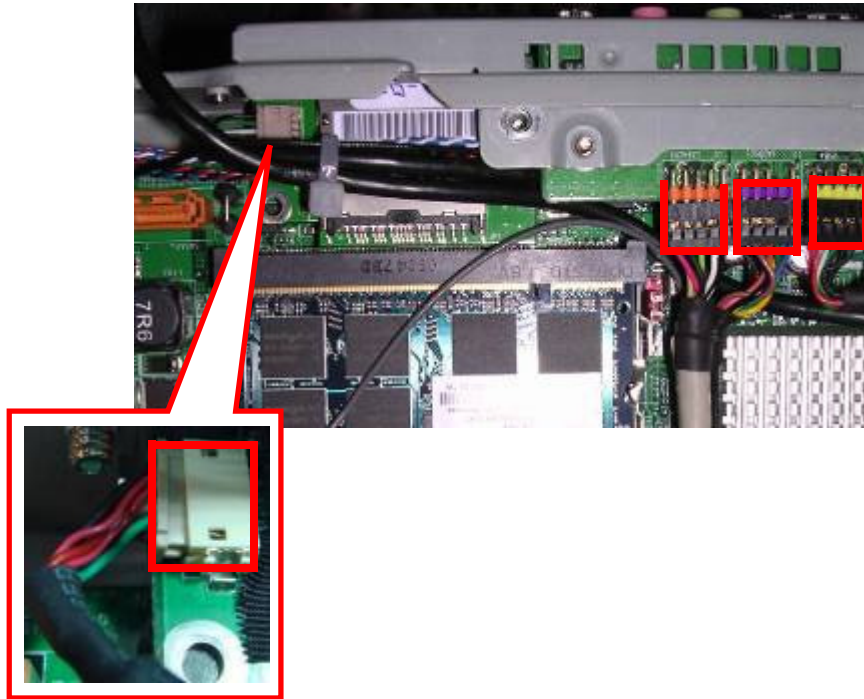


2. Remove the screw fastening the front IO assembly to the system.



3. Pull out the IO assembly as shown.
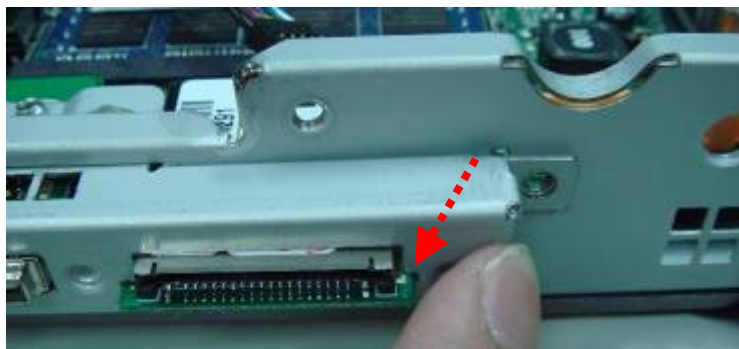
**4.** Then detach the IO assembly as shown.



**5.** Remove three screws holding the IO board (two screws) and card reader (one screw) to the IO bracket. Then detach the IO board and card reader.
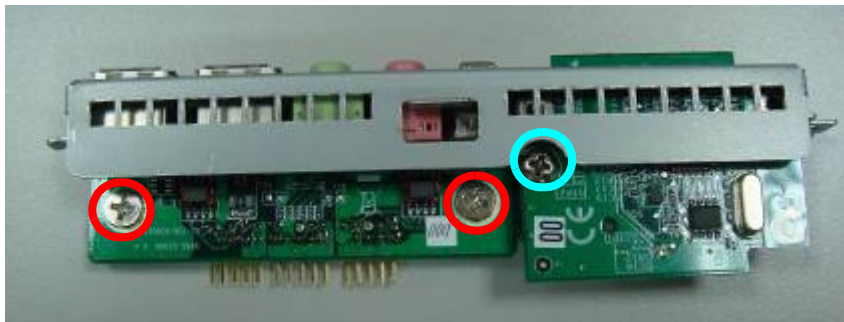


# Removing Cables/TV Tuner Board/TV Tuner Card and Wireless LAN Card

**1.** Cut off the cable ties and disconnect the cables from the system.



**2.** Remove the two screws fastening the TV tuner board.

**3.** Disconnect the antennae and detach the TV tuner board.
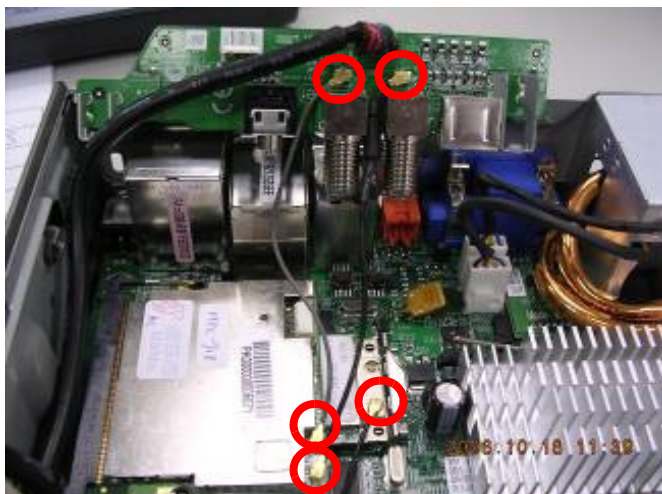


**4.** Pop out the TV tuner card and detach the wireless LAN card from the main board.



# Removing the Thermal Module/CPU/Memory and the Main

# Board

1. Disconnect the system fan power cable.



2. Remove the four screws holding the system fan on the rear side. Then detach the fan from the system.



3. Remove the four screws fastening the heat sink to the main board. (Follow the order indicating by the numbers).Then detach the heat sink from the main board.
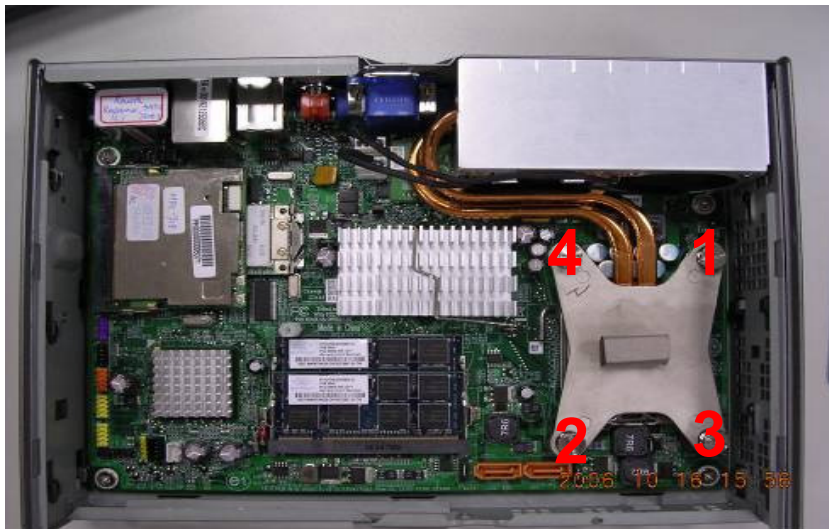


**NOTE:** The thermal module on the headline refers to the system fan and the heat sink.

4. Release the CPU lock and remove the CPU from the socket.

**5.** Pop out the memories and remove them from the main board.



**6.** Remove the four screws and one fastening screw holding the main board to the chassis.



**7.** Lift the main board as shown then detach the main board from the chassis.

# Veriton 1000 Disassembly Procedure

This section tells you how to disassemble the system when you need to perform system service. Please also refer to the disassembly video, if available.

**CAUTION:** Before you proceed, make sure you have turned off the system and all peripherals connected to it.

## Removing the Stand Assembly

1. Remove the screw holding the stand assembly.

2. Then detach the system from the stand assembly.

# Removing the Top Cover and Front Bezel Assembly

**3.** Remove the screw fastening the top cover.



**4.** Remove the top cover from the system.



**5.** Pull up the three locks as shown.

**6.** Place the front bezel as shown.



**7.** Release the two hooks highlighted with red circles, then detach the cable from the front bezel.
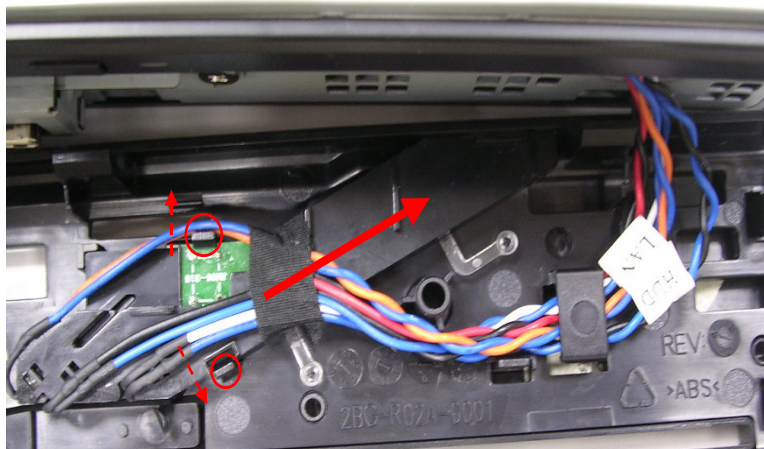


# Removing the ODD Module

**1.** Remove the screw holding the ODD module to the system.

**2.** Push the ODD module outwards and remove it from the system.



**3.** Remove the two screws holding the ODD bracket to the ODD.



**4.** Turn over the ODD module (with ODD bracket) and detach the ODD module as shown.



**NOTE:** If you only need to remove the ODD module, you can do as the steps mentioned above. However, if you need to remove the entire cage assembly, please see the steps below.

# Removing the Cage Assembly

1. Remove the three screws holding the cage assembly to the system.
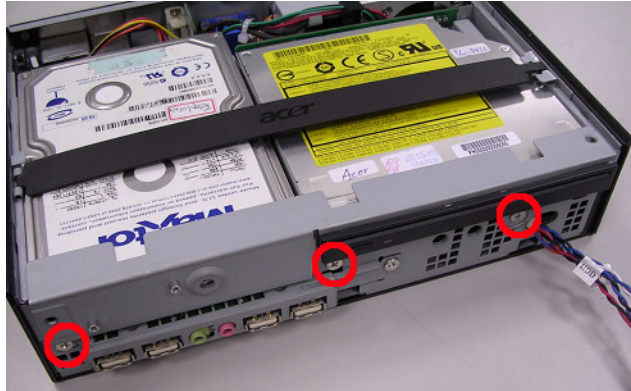


2. There are four fastening hooks holding the cage assembly.



3. See the close-up for the fastening hooks below.
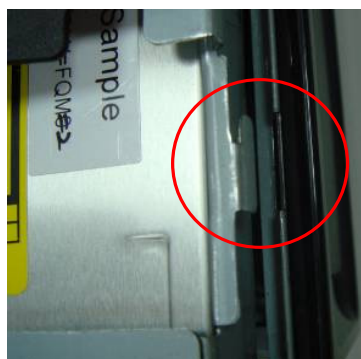


4. Push the cage assembly outwards, then hold the cage plastic belt to lift the cage assembly.
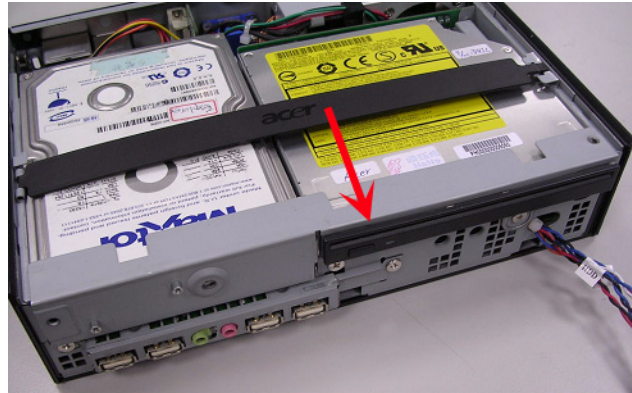
**5.** Disconnect the cables and remove the cage assembly.



# Removing the HDD and ODD Transfer Board

**1.** Disconnect the four screws fastening the HDD to the HDD/ODD bracket.
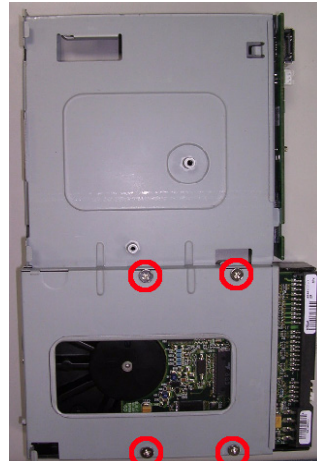


**2.** Detach the HDD from the HDD/ODD bracket.



**3.** Remove the screw fastening the ODD transfer board on the HDD/ODD bracket, then push the ODD transfer board to the left to detach the board.

# Removing the Front IO Assembly

1. Disconnect the cables from the main board as shown.
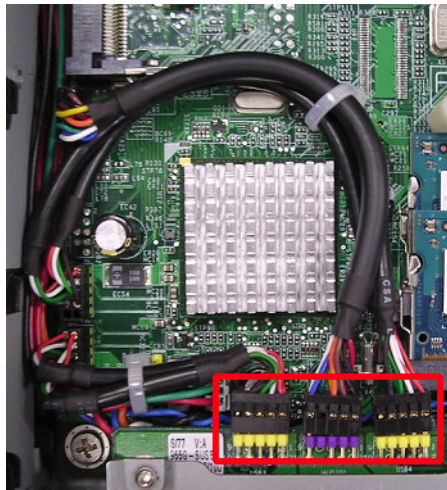


2. Remove the screw holding the front IO assembly to the chassis.
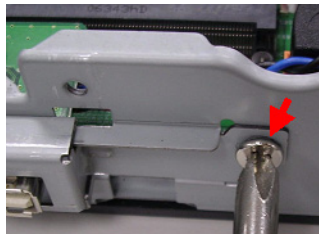


3. Pull out the front IO assembly from the chassis.
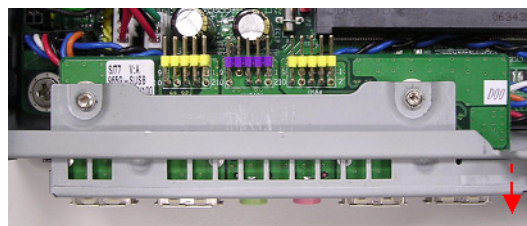


4. Then push to the right to remove the front IO assembly.
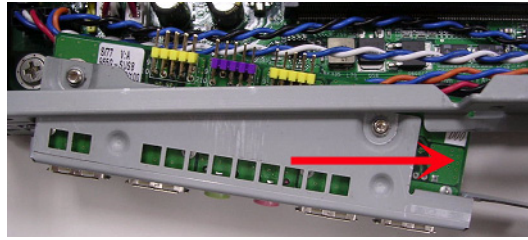
**5.** Remove the two screws holding the front IO USB board and the bracket.
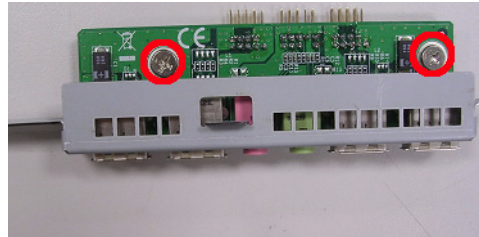


# Removing the Cables

**1.** Cut off the cable ties and remove the cables.
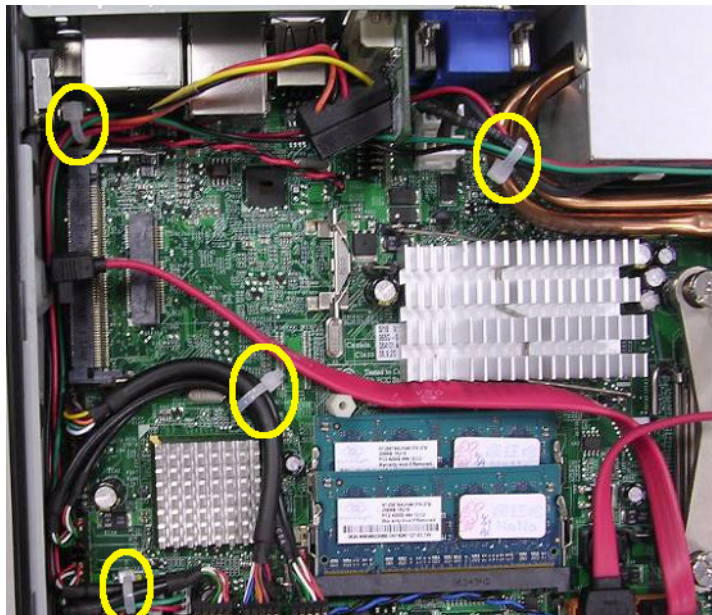


**2.** Remove the screw fastening the power switch cable to the chassis.
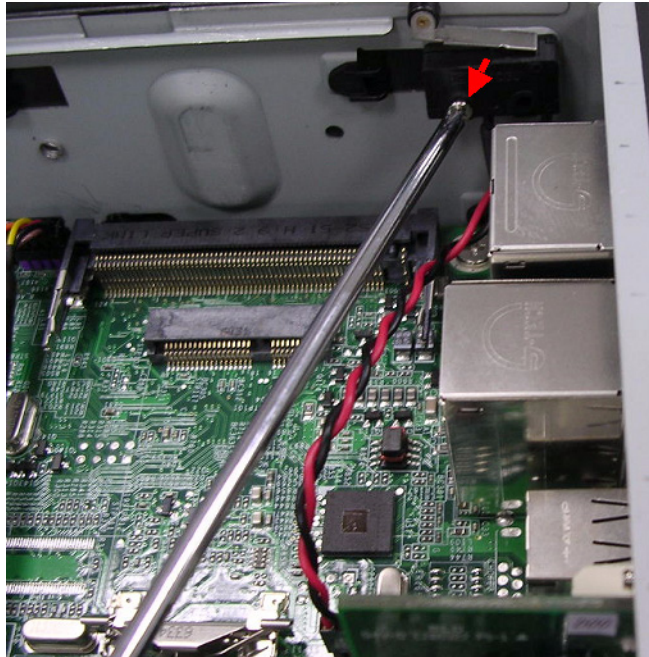
3. Disconnect the power switch cable from the main board and remove the cable.
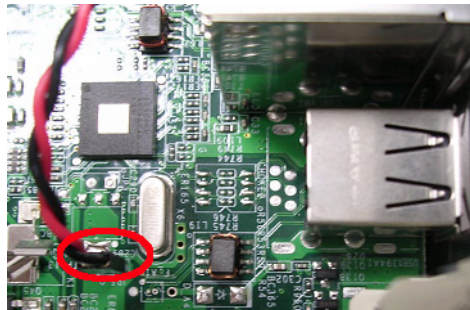


# Removing the Thermal Module/CPU/Memory and the Main Board

1. Disconnect the system fan power cable.



2. Remove the four screws holding the system fan on the rear side. Then detach the fan from the system.

**3.** Remove the four screws fastening the heat sink to the main board. (Follow the order indicating by the numbers).Then detach the heat sink from the main board.
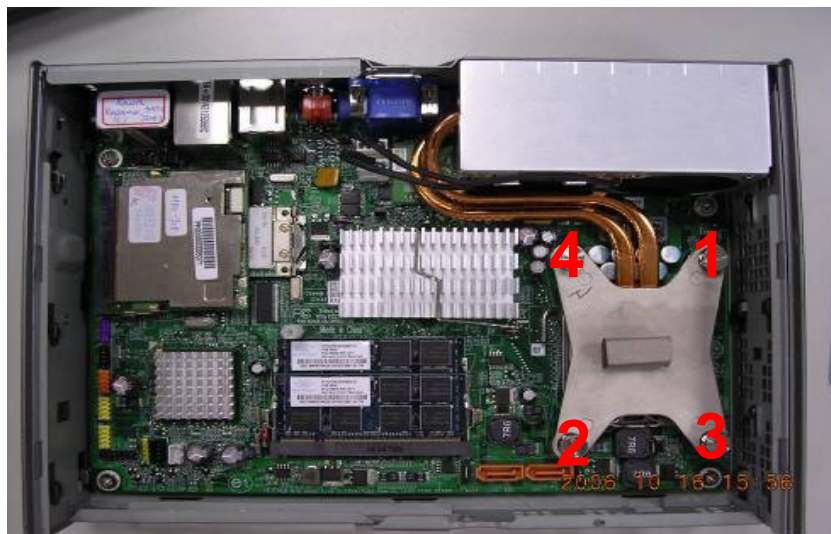


**NOTE:** The thermal module on the headline refers to the system fan and the heat sink.

**4.** Release the CPU lock and remove the CPU from the socket.



**5.** Pop out the memories and remove them from the main board.

**6.** Remove the four screw nuts on the rear side.
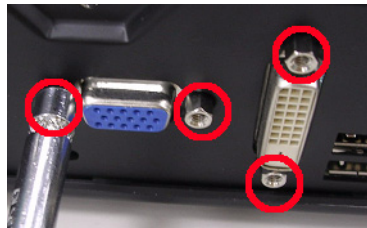


**7.** Remove the four screws and one fastening screw holding the main board to the chassis.
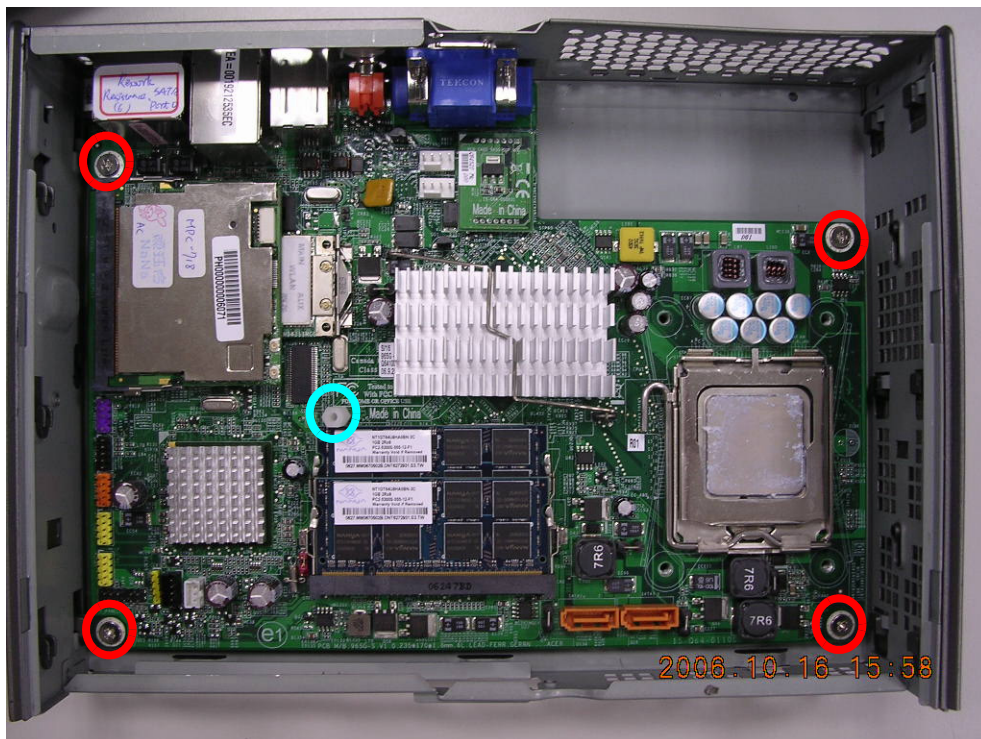


**8.** Lift the main board as shown then detach the main board from the chassis.

# Troubleshooting

This chapter provides troubleshooting information for the Aspire L350/Veriton 1000

❑ Power-On Self-Test (POST)

❑ Index of Error Message

❑ Index of Error Symptoms

❑ Undetermined Problems

# Power-On Self-Test (POST)

Each time you turn on the system, the Power-on Self Test (POST) is initiated. Several items are tested during POST, but is for the most part transparent to the user.

The Power-On Self Test (POST) is a BIOS procedure that boots the system, initializes and diagnoses the system components, and controls the operation of the power-on password option. If POST discovers errors in system operations at power-on, it displays error messages on screen, generates a check point code at port 80h or even halts the system if the error is fatal.

The main components on the main board that must be diagnosed and/or initialized by POST to ensure system functionality are as follows:

- ❏ Microprocessor with built-in numeric co-processor and cache memory subsystem
- ❏ Direct Memory Access (DMA) controller
- ❏ Interrupt system
- ❏ Three programmable timers
- ❏ ROM subsystem
- ❏ RAM subsystem
- ❏ CMOS RAM subsystem and real time clock/calendar with battery backup
- ❏ Onboard parallel interface controller
- ❏ Embedded hard disk interface and one diskette drive interface
- ❏ Keyboard and auxiliary device controllers
- ❏ 1.44M floppy controller
- ❏ I/O ports
    - ❏ One parallel port
    - ❏ One PS/2-compatible mouse port
    - ❏ One PS/2-compatible keyboard port

**NOTE:** When Post executes a task, it uses a series of preset numbers called check points to be latched at

port 80h, indicating the stages it is currently running. This latch can be read and shown on a debug board.

The following table describes the BIOS common tasks carried out by POST. Each task is denoted by an unique check point number. For other unique check point numbers that are not listed in the table, refer to the corresponding product service guide.

Post Checkpoints List: The list may vary accordingly depending on your BIOS

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| Checkpoint | Description |
|---|---|
| CFh | Test CMOS R/W functionality |
| C0h | Early chipset initialization:<br>-Disable shadow RAM<br>-Disable L2 cache (socket 7 or below)<br>-Program basic chipset registers |
| C1h | Detect memory<br>-Auto-detection of DRAM size, type and ECC.<br>-Auto-detection of L2 cache (socket 7 or below) |
| C3h | Expand compressed BIOS code to DRAM |
| C5h | Call chipset hook to copy BIOS back to E000 & F000 shadow RAM. |
| 01h | Expand the Xgroup codes locating in physical address 1000:0 |
| 02h | Reserved |

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| Checkpoint | Description |
|---|---|
| 03h | Initial Superio_Early _Init switch |
| 04h | Reserved |
| 05h | 1. Blank out screen<br>2. Clear CMOS error flag |
| 06h | Reserved |
| 07h | 1. Clear 8042 interface<br>2. Initialize 8042 self-test |
| 08h | 1. Test special keyboard controller for Winbond 977 series Super I/O chips.<br>2. Enable keyboard interface. |
| 09h | Reserved |
| 0Ah | 1. Disable PS/2 mouse interface (optional)<br>2. Auto detect ports for keyboard & mouse followed by a port & interface swap (optional).<br>3. Reset keyboard for Winbond 977 series Super I/Q chips. |
| 0Bh | Reserved |
| 0Ch | Reserved |
| 0Dh | Reserved |
| 0Eh | Test F000h segment shadow to see whether it is R/W-able or not. If test fails, keep beeping the speaker. |
| 0Fh | Reserved |
| 10h | Auto detect flash type to load appropriate flash R/W codes into the run time area in F000 for ESCD & DMI support. |
| 11h | Reserved |
| 12h | Use walking 1's algorithm to check out interface in CMOS circuitry. Also set real-time clock power status, and then check for override. |
| 13h | Reserved |
| 14h | Program chipset default values into chipset. Chipset default values are MODBINable by OEM customers. |
| 15h | Reserved |
| 16h | Initial Early_Init_Onboard_Generator switch. |
| 17h | Reserved |
| 18h | Detect CPU information including brand, SMI type (Cyrix or Intel) and CPU level (586 or 686) |
| 19h | Reserved |
| 1Ah | Reserved |
| 1Bh | Initial interrupts vector table. If no special specified, all H/W interrupts are directed to SPURIOUS_INT_HDLR & S/W interrupts to SPURIOUS_soft_HDLR. |
| 1Ch | Reserved |
| 1Dh | Initial Early_PM_INIT switch. |
| 1Eh | Reserved |
| 1Fh | Load keyboard matrix (notebook platform) |
| 20h | Reserved |
| 21h | HPM initialization (notebook platform) |
| 22h | Reserved |

| Checkpoint | Description |
|------------|-------------|
| 23h | 1. Check validity of RTC value: <br> e.g. a value of 5Ah is an invalid value for RTC minute. <br> 2. Load CMOS settings into BIOS stack. If CMOS checksum fails, use default value <br> instead. <br> 3. Prepare BIOS resource map for PCI & PnP use. If ESCD is valid, take into consideration of the ESCD's legacy information. <br> 4. Onboard clock generator initialization. Disable respective clock resource to empty PCI <br> & DIMM slots. <br> 5. Early PCI initialization <br> -Enumerate PCI bus number <br> -Assign memory & I/O resource <br> -Search for a valid VGA device and VGA BIOS, and put it into C000:0 |
| 24h | Reserved |
| 25h | Reserved |
| 26h | Reserved |
| 27h | Initialize INT 09 buffer |
| 28h | Reserved |
| 29h | 1. Program CPU internal MTRR (P6 & PII) for 0-640K memory address. <br> 2. Initialize the APIC for Pentium class CPU. <br> 3. Program early chipset according to CMOS setup. Example: onboard IDE controller. <br> 4. Measure CPU speed. <br> 5. Invoke video BIOS. |
| 2Ah | Reserved |
| 2Bh | Reserved |
| 2Ch | Reserved |
| 2Dh | 1. Initialize multi-language <br> 2. Put information on screen display, including Award title, CPU type, CPU speed... |
| 2Eh | Reserved |
| 2Fh | Reserved |
| 30h | Reserved |
| 31h | Reserved |
| 32h | Reserved |
| 33h | Reset keyboard except Winbond 977 series Super I/O chips. |
| 34h | Reserved |
| 35h | Reserved |
| 36h | Reserved |
| 37h | Reserved |
| 38h | Reserved |
| 39h | Reserved |
| 3Ah | Reserved |
| 3Bh | Reserved |

| Checkpoint | Description |
|---|---|
| 3Ch | Test 8254. |
| 3Dh | Reserved |
| 3Eh | Test 8259 interrupt mask bits for channel 1 |
| 3Fh | Reserved |
| 40h | Test 8259 interrupt mask bits for channel 2 |
| 41h | Reserved |
| 42h | Reserved |
| 43h | Test 8259 functionality |
| 44h | Reserved |
| 45h | Reserved |
| 46h | Reserved |
| 47h | Initialize EISA slot |
| 48h | Reserved |
| 49h | 1. Calculate total memory by testing the last double word of each 64K. 2. Program writes allocation for AMD K5 CPU. |
| 4Ah | Reserved |
| 4Bh | Reserved |
| 4Ch | Reserved |
| 4Dh | Reserved |
| 4Eh | 1. Program MTRR of M1 CPU. 2. Initialize L2 cache for P6 class CPU & program CPU with proper cacheable range. 3. Initialize the APIC for P6 class CPU. 4. On MP platform, adjust the cacheable range to smaller one in case the cacheable ranges between each CPU are not identical. |
| 4Fh | Reserved |
| 50h | Initialize USB |
| 51h | Reserved |
| 52h | Test all memory (clear all extended memory to 0) |
| 53h | Reserved |
| 54h | Reserved |
| 55h | Display number of processors (multi-processor platform) |
| 56h | Reserved |
| 57h | 1. Display PnP logo 2. Early ISA PnP initialization -Assign CSN to every ISA PnP device. |
| 58h | Reserved |
| 59h | Initialize the combined Trend Anti-Virus code. |
| 5Ah | Reserved |
| 5Bh | (Optional Feature) Show message for entering AWDFLASH.EXE from FDD (optional) |
| 5Ch | Reserved |

| Checkpoint | Description |
|---|---|
| 5Dh | 1. Initialize Init_Onboard_Super_IO switch.<br>2. Initialize Init_Onboard_AUDIO switch. |
| 5Eh | Reserved |
| 5Fh | Reserved |
| 60h | Okay to enter Setup utility; i.e. not until this POST stage can users enter the CMOS setup utility. |
| 61h | Reserved |
| 62h | Reserved |
| 63h | Reserved |
| 64h | Reserved |
| 65h | Initialize PS/2 Mouse |
| 66h | Reserved |
| 67h | Prepare memory size information for function call:<br>INT 15h ax=E820h |
| 68h | Reserved |
| 69h | Turn on L2 cache |
| 6Ah | Reserved |
| 6Bh | Program chipset registers according to items described in Setup& Auto-configuration table. |
| 6Ch | Reserved |
| 6Dh | 1. Assign resources to all ISA PnP devices.<br>2. Auto assign ports to onboard COM ports if the corresponding item in Setup is set to<br>   "AUTO" |
| 6Eh | Reserved |
| 6Fh | 1. Initialize floppy controller<br>2. Set up floppy related fields in 40: hardware. |
| 70h | Reserved |
| 71h | Reserved |
| 72h | Reserved |
| 73h | (Optional Feature)<br>Enter AWDFLASH.EXE if:<br>     -AWDFLASH is found in floppy drive<br>     -ALT+F2 is pressed |
| 74h | Reserved |
| 75h | Detect & install all IDE devices: HDD, LS120, ZIP,CDROM..... |
| 76h | Reserved |
| 77h | Detect serial ports & parallel ports |
| 78h | Reserved |
| 79h | Reserved |
| 7Ah | Detect & install co-processor |
| 7Bh | Reserved |
| 7Ch | Reserved |
| 7Dh | Reserved |

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| Checkpoint | Description |
|---|---|
| 7Eh | Reserved |
| 7Fh | 1. Switch back to text mode if full screen logo is supported.<br>   -If errors occur, report errors & wait for keys<br>   -If no errors occur or F1 key is pressed to continue:<br>   Clear EPA or customization logo. |
| 80h | Reserved |
| 81h | Reserved |
| 82h | 1. Call chipset power management hook.<br>2. Recover the text fond used by EPA logo (not for full screen logo)<br>3. If password is set, ask for password. |
| 83h | Save all data in stack back to CMOS. |
| 84h | Initialize ISA PnP boot devices. |
| 85h | 1. USB final Initialization<br>2. NET PC: Build SYSID structure<br>3. Switch screen back to text mode.<br>4. Set up ACPI table at top of memory.<br>5. Invoke ISA adapter ROMs.<br>6. Assign IRQs to PCI devices<br>7. Initialize APM<br>8. Clear noise of IRQs |
| 86h | Reserved |
| 87h | Reserved |
| 88h | Reserved |
| 89h | Reserved |
| 90h | Reserved |
| 91h | Reserved |
| 92h | Reserved |
| 93h | Read HDD boot sector information for Trend Anti-Virus code |
| 94h | 1. Enable L2 cache<br>2. Program boot up speed<br>3. Chipset final initialization<br>4. Power management final initialization<br>5. Clear screen & display summary table<br>6. Program K6 write allocation<br>7 Program P6 class write combining. |
| 95h | 1. Program daylight saving<br>2. Update keyboard LED & typematic rate |
| 96h | 1. Build MP table<br>2. Build & update ESCD<br>3. Set CMOS century to 20h or 19h<br>4. Load CMOS time into DOS timer tick<br>5. Build MSIRQ routing table |
| FFh | Boot attempt (INT 19h) |

# POST Error Messages List

If you cannot run the diagnostics program tests but did receive a POST error message, use "POST Error Messages List" to diagnose system problems. If you did not receive any error message, look for a description of your error symptoms in "Error Symptoms List" on page 87.

**NOTE:** When you have deemed it necessary to replace an FRU, and have done so, you must run a total system check to ensure that no other activity has been affected by the change. This system check can be done through the diagnostics program.

**NOTE:** Check all power supply voltages, switch, and jumper settings before you replace the main board. Also check the power supply voltages if you have a "system no-power" condition.

If you are unable to correct the problem by using the "BIOS Messages List" table and "Error Symptoms List" table, go to "Undetermined Problems".

To diagnose a problem, first find the BIOS error messages in the left column. If directed to a check procedure, replace the FRU indicated in the check procedure. If no check procedure is indicated, the first Action/FRU listed in right column is the most likely cause.

| BIOS Messages | Action/FRU |
|---|---|
| BIOS ROM checksum error - System halted | The checksum of the BIOS code in the BIOS chip is incorrect, indicating the BIOS code may have become corrupt. Contact your system dealer to replace the BIOS. |
| CMOS Battery Failed | The CMOS battery is no longer functional. Contact your system dealer for a replacement the BIOS. |
| CMOS Checksum Error- defaults loaded | Checksum of CMOS is incorrect, so the system loads the default equipment configuration. A checksum error may indicate that CMOS has become corrupt. A weak battery may have caused this error. Check the battery and replace if necessary. |
| CPU at nnnn | Displays the running speed of CPU. |
| Display switch is set incorrectly | The display switch on the motherboard can be set to either monochrome or color. This message indicates the switch is set to a different setting than indicated in Setup. Determine which setting is correct, and then either turn off the system and change the jumper, or enter Setup and change the Video selection. |
| Press ESC to skip memory test | The user may press Esc to skip the full memory test. |
| Floppy disk(s) fail | Cannot find or initialize the floppy drive controller or the drive. Make sure the controller is installed correctly, if no floppy drives are installed, be sure the Diskette Drive selection in Setup is set to NONE or AUTO. |
| HARD DISK initializing - Please wait a moment | Some hard drives require extra time to initialize. |
| HARD DISK INSTALL FAILURE | Cannot find or initialize the hard drive controller or the drive. Make sure the controller is installed correctly. If no hard drives are installed, be sure the Hard Drive Selection in Setup is set to NONE. |
| Hard disk(s) diagnosis fail | The system may run specific disk diagnostic routines. This message appears if one or more hard disks return an error when the diagnostics run. |

| BIOS Messages | Action/FRU |
|---|---|
| Keyboard Error Or No Keyboard Present | Cannot initialize the keyboard. Make sure the keyboard is attached correctly and no keys are pressed during POST. To purposely configure the system without a keyboard, set the error halt condition in Setup to HALT ON ALL, BUT KEYBOARD. The BIOS then ignores the missing keyboard during POST. |
| Keyboard is locked out - Unlock the key | This message usually indicates that one or more keys have been pressed during the keyboard tests. Be sure no objects are resting on the keyboard. |
| Memory Test: | This message displays during a full memory test, counting down the memory areas being tested. |
| Memory test fail | If POST detects an error during memory testing, additional information appears giving specifics about the type and location of the memory error. |
| Override enabled - Defaults loaded | If the system cannot boot using the current CMOS configuration, the BIOS can override the current configuration with a set of BIOS defaults designed for the most stable, minimal-performance system operations. |
| Press TAB to show POST screen | System OEMs may replace the Phoenix Technologies Award BIOS POST display with their own proprietary display. Including this message in the OEM display permits the operator to switch between the OEM display and the default POST display. |
| Primary master hard disk fail | POST detects an error in the primary master IDE hard drive. |
| Primary slave hard disk fail | POST detects an error in the secondary master IDE hard drive. |
| Secondary master hard disk fail | POST detects an error in the primary slave IDE hard drive. |
| Secondary slave hard disk fail | POST detects an error in the secondary slave IDE hard drive. |

# Error Symptoms List

**NOTE:** To diagnose a problem, first find the error symptom in the left column. If directed to a check procedure, replace the FRU indicated in the check procedure. If no check procedure is indicated, the first Action/ FRU listed in right column is the most likely cause.

| Error Symptom | Action/FRU |
|---|---|
| **Processor / Processor Fan** | |
| **NOTE:** Normally, the processor fan should be operative, and the processor clock setting should be exactly set to match its speed requirement before diagnosing any processor problems. | |
| Processor fan does not run but power supply fan runs. | 1. Ensure the system is not in power saving mode. See "Power Management" in chapter 2.<br>2. With the system power on, measure the voltage of processor fan connector. Its reading should be +12Vdc. Its reading should be +12Vdc. If the reading shows normal, but the fan still does not work, then replace a good fan.<br>3. Main board. |
| Processor test failed. | 1. Processor.<br>2. Main board. |
| **Main board and Memory** | |
| **NOTE:** Ensure the memory modules are installed properly and the contact leads are clean before diagnosing any system problems. | |
| Memory test failed. | 1. See "Memory"<br>2. Main board |
| Incorrect memory size shown or repeated during POST. | 1. Insert the memory modules in the DIMM sockets properly, then reboot the system.<br>2. Memory module.<br>3. Main board. |
| System works but fails to enter power saving mode when the `Power Management Mode` is set to `Enabled`. | 1. Enter BIOS Setup and load default settings.<br>In Windows Systems, check settings in Power Management Property of Control Panel.<br>2. Reload software from Recovery CD. |
| Blinking cursor only; system does not work. | 1. Diskette/IDE drive connection/cables<br>2. Diskette/IDE disk drives<br>3. See "Undetermined Problems".<br>4. Main board |
| **Diskette Drive** | |
| **NOTE:** Ensure the diskette drive is auto-setting in BIOS Setup and its read/write head is clean before diagnosing any diskette drive problems.(If only one drive is installed, please make sure the drive is connected to master connector or the drive is set to master.) | |
| Media and drive are mismatched. | 1. Ensure the diskette drive is configured correctly in the Disk Drives of BIOS Setup.<br>2. Ensure the diskette drive is correctly formatted.<br>3. Diskette drive connection/cable<br>4. Diskette drive<br>5. Main board |
| Diskette drive does not work. | 1. Ensure the diskette drive is not set to `None` in the Disk Drives of BIOS Setup.<br>2. Diskette drive power<br>3. Diskette drive connection/cable<br>4. Diskette drive<br>5. Main board |

| Error Symptom | Action/FRU |
|---|---|
| Diskette drive read/write error. | 1. Diskette.<br>2. Diskette drive cable.<br>3. Diskette drive.<br>4. Main board. |
| Diskette drive LED comes on for more than 2 minutes when reading data. | 1. Diskette<br>2. Diskette drive connection/cable<br>3. Diskette drive<br>4. Main board |
| Diskette drive LED fails to light, and the drive is unable to access for more than 2 minutes. | 1. Diskette<br>2. Diskette drive power<br>3. Diskette drive connection/cable<br>4. Diskette drive<br>5. Main board |
| Diskette drive test failed. | 1. Diskette<br>2. Diskette drive<br>3. Diskette drive cable<br>4. Main board |
| **Hard Disk Drive** | |
| **NOTE:** Ensure hard disk drive is configured correctly in BIOS Setup, cable/jumper are set correctly before diagnosing any hard disk drive problems. (If only one drive is installed, please make sure the drive is connected to master connector or the drive is set to master.) | |
| Hard disk drive test failed. | 1. Enter BIOS Setup and Load default settings.<br>2. Hard disk drive cable.<br>3. Hard disk drive.<br>4. Main board. |
| Hard disk drive cannot format completely. | 1. Enter BIOS Setup and Load default settings.<br>2. Hard disk drive cable.<br>3. Hard disk drive.<br>4. Main board. |
| Hard disk drive has write error. | 1. Enter BIOS Setup and Load default settings.<br>2. Hard disk drive. |
| Hard disk drive LED fails to light, but system operates normally. | 1. With the system power on, measure the voltage of hard disk LED connector.<br>2. Hard drive LED cable. |
| **CD/DVD-ROM Drive** | |
| **NOTE:** Ensure CD/DVD-ROM drive is configured correctly in BIOS Setup, cable/jumper are set correctly and its laser beam is clean before diagnosing any CD/DVD-ROM drive problems. | |
| CD/DVD-ROM drive LED doesn't come on but works normally. | 1. CD/DVD-ROM drive |
| CD/DVD-ROM drive LED flashes for more than 30 seconds before LED shutting off.<br><br>Software asks to reinstall disc.<br>Software displays a reading CD/DVD error. | 1. CD/DVD-ROM may have dirt or foreign material on it. Check with a known good disc.<br>2. CD/DVD-ROM is not inserted properly.<br>3. CD/DVD-ROM is damaged. |
| CD/DVD-ROM drive cannot load or eject when the system is turned on and its eject button is pressed and held. | 1. Disconnect all cables from CD/DVD-ROM drive except power cable, then press eject button to try to unload the disk.<br>2. CD/DVD-ROM drive power.<br>3. CD/DVD-ROM drive |

| Error Symptom | Action/FRU |
|---|---|
| CD/DVD-ROM drive does not read and there are no messages are displayed. | 1. CD may have dirt or foreign material on it. Check with a known good disc.<br>2. Ensure the CD/DVD-ROM driver is installed properly.<br>3. CD/DVD-ROM drive. |
| CD/DVD-ROM drive can play audio CD but no sound output. | 1. Ensure the headphone jack of the CD/DVD-ROM has an output.<br>2. Turn up the sound volume.<br>3. Speaker power/connection/cable.<br>4. CD/DVD-ROM drive. |
| **Real-Time Clock** | |
| Real-time clock is inaccurate. | 1. Ensure the information in the `Standard CMOS Feature` of BIOS Setup is set correctly.<br>2. RTC battery.<br>3. Main board |
| **Audio** | |
| Audio software program invokes but no sound comes from speakers. | 1. Speaker power/connection/cable. |
| **Modem** | |
| Modem ring cannot wake up system from suspend mode. | 1. For the External Modem, make sure Power on By Ring in BIOS Setup or Power Management is set to Enabled. For the PCI modem, make sure Wake up by PCI card is set to Enabled.<br>2. If PCI modem card is used, reinsert the modem card to PCI slot firmly or replace the modem card.<br>3. In Win 98, ensure the telephone application is configured correctly for your modem and set to receive messages and/or fax. |
| Data/fax modem software program invokes but cannot receive/send data/fax | 1. Ensure the modem card is installed properly. |
| Fax/voice modem software program invokes but has no sound output. (Data files are received normally; voice from modem cannot be produced, but system sound feature works normally.) | 1. Ensure the modem voice-in cable from modem adapter card to main board |
| **Video and Monitor** | |
| Video memory test failed.<br>Video adapter failed. | 1. Remove all non-factory-installed cards.<br>2. Load default settings (if screen is readable).<br>3. Main board |
| Display problem:<br> - Incorrect colors<br>No high intensity<br>Missing, broken, or incorrect characters<br>Blank monitor (dark)<br>Blank monitor (bright)<br>Distorted image<br>Unreadable monitor<br>Other monitor problems | 1. Monitor signal connection/cable.<br>2. Monitor<br>3. Video adapter card<br>4. Main board |
| Display changing colors. | 1. Monitor signal connection/cable<br>2. Monitor<br>3. Main board |

| Error Symptom | Action/FRU |
|---|---|
| Display problem not listed above (including blank or illegible monitor). | 1. "Monitor"<br>2. Load default settings (if screen is readable).<br>3. Main board |

| Error Symptom | Action/FRU |
|---|---|
| **Parallel/Serial Ports** ||
| Execute "Load BIOS Default Settings" in BIOS Setup to confirm ports presence before diagnosing any parallel/serial ports problems. ||
| Serial or parallel port loop-back test failed. | 1. Make sure that the LPT# or COM# you test is the same as the setting in BIOS Setup.<br>2. Loop-back.<br>3. Main board. |
| Printing failed. | 1. Ensure the printer driver is properly installed. Refer to the printer service manual.<br>2. Printer.<br>3. Printer cable.<br>4. Main board. |
| Printer problems. | 1. Refer to the service manual for the printer. |
| **Keyboard** ||
| Some or all keys on keyboard do not work. | 1. Keyboard |
| **Power Supply** ||
| Pressing power switch does not turn off system. (Only unplugging the power cord from electrical outlet can turn off the system.) | 1. Ensure the `Soft-off by PWR-BTTN.` in BIOS Setup of `Power Management` is not set to Instant-off.<br>2. Power switch cable assembly |
| Pressing power switch does not turn on the system. | 1. Ensure the power override switch (situated at the back of the machine, just above the connector for the power cable) is not set to OFF.<br>2. Power switch cable assembly. |
| Executing software shutdown from Windows98 Start menu does not turn off the system. (Only pressing power switch can turn off the system). | 1. Load default settings.<br>2. Reload software from Recovery CD. |
| No system power, or power supply fan is not running. | 1. Power Supply<br>2. Main board |
| **Other Problems** ||
| Any other problems. | 1. Undetermined Problems |

# Undetermined Problems

If an error message is present, go to "POST Error Messages List" on page 85. If you did not receive any messages, if the symptom is listed in "or "Error Symptoms List" on page 87. If you still cannot solve the problem, continue with this check:

1. Check the power supply voltage. If the voltage are correct continue with the following steps:

2. Power off the system unit.

3. Perform the following checks, one by one, until you have isolated the problem FRU.

4. Load default settings in setup.

5. Check all main board jumper positions and switch settings.

6. Check all adapter card jumper positions.

7. Check all device jumper positions.

8. Check all cables and connectors for proper installation.

9. If the jumpers, switches and voltage settings are correct, remove or disconnect the following, one at a time:

10. Non-Acer devices

   ❑   External devices

   ❑   Any adapter card (modem card, LAN card or video card, if installed)

   ❑   CD/DVD-ROM drive

   ❑   Diskette drive

   ❑   Hard disk drive

   ❑   DIMM

   ❑   Processor

   ❑   Main board

11. Power on the system unit.

12. Repeat steps 2 through 5 until you find the failing device or adapter.

# Jumper and Connector Information
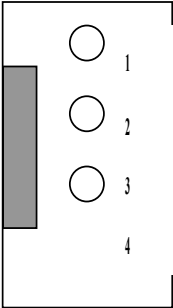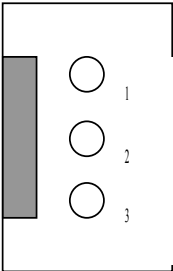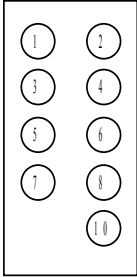
## Main Board Layout
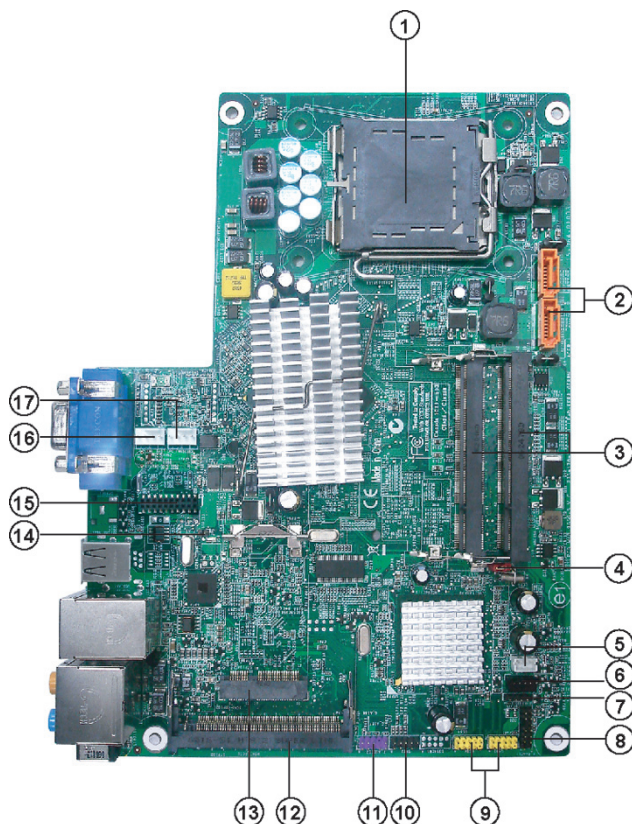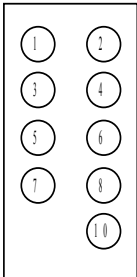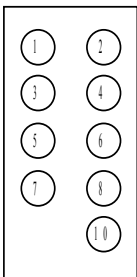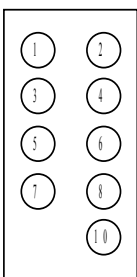


| | | | | | |
|---|---|---|---|---|---|
| 1 | CPU Socket | LGA775 socket for Intel CoreTM 2 Duo with 65W TDP CPUs | 10 | SPI2 | Video input header |
| 2 | SATA1~2 | Serial ATA connectors | 11 | F_AUDIO2 | Front panel audio header |
| 3 | SCN2~3 | Two 200-pin DDR2 SDRAM SO-DIMMs | 12 | MINI_PCI1 | 32-bit/33 MHz MINI PCI slot |
| 4 | JP2 | Clear CMOS jumper | 13 | SCN1 | MINI PCI Express slot |
| 5 | J4 | 3-pin ODD power connector | 14 | JP5 | Case open header |
| 6 | J3 | SATA HDD power connector | 15 | JP6 | DVI-D header |
| 7 | CR1 | USB power header | 16 | SYS_FAN1 | System cooling fan connector |

| 8 | F_PANEL1 | Front panel switch/LED header | 17 | CPU_FAN1 | CPU cooling fan connector |
| 9 | USB3~4 | Front panel USB headers | | | |
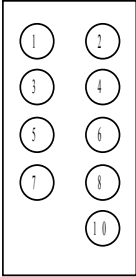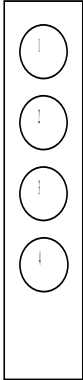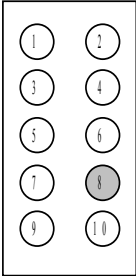
**Clear CMOS Jumper (JP2) Settings**

| Location | Symbol | Description | Function |
|----------|--------|-------------|----------|
| JP2 | JP2 | 1-2: NORMAL<br>Before clearing the CMOS,make sure to turn off the sys-tem.<br>2-3: CLEAR CMOS | Clear CMOS |

| Location and Header Type | Pin | Signal Name |
|--------------------------|-----|-------------|
| CPU_FAN1 | 1 | GND |
| | 2 | +12V |
| | 3 | SENSE |
| | 4 | Control |
| SYS_FAN1 | 1 | GND |
| | 2 | +12V |
| | 3 | SENSE |

| Location and Header Type | Pin | Signal Name |
|---|---|---|
| USB3 | 1 | USBPWR1 |
| | 2 | USBPWR1 |
| | 3 | USBP2N |
| | 4 | USBP2N |
| | 5 | USBP2P |
| | 6 | USBP3P |
| | 7 | GND |
| | 8 | GND |
| | 10 | NC |
| USB4 | 1 | USBPWR6 |
| | 2 | USBPWR6 |
| | 3 | USBP0N |
| | 4 | USBP1N |
| | 5 | USBP0P |
| | 6 | USBP1P |
| | 7 | GND |
| | 8 | GND |
| | 10 | NC |
| AUDIO1 | 1 | MIC2_RL |
| | 2 | AGND |
| | 3 | MIC2_RR |
| | 4 | VCC3 |
| | 5 | LINE2_RR |
| | 6 | RET_R |
| | 7 | REVD |
| | 9 | LINE2_RL |
| | 10 | RET_L |
| 1394CN1 | 1 | AIP |
| | 2 | AIM |
| | 3 | GND |
| | 4 | GND |
| | 5 | B1P |
| | 6 | B1M |
| | 7 | CPWR |
| | 8 | CPWR |
| | 10 | GND |

| Location and Header Type | Pin | Signal Name |
|---|---|---|
| SPI2 | 12 | S_VIDEO_Y |
| | 2 | S_VIDEO_C |
| | 3 | AUDIO_R_IN |
| | 4 | GND |
| | 5 | AUDIO_L_IN |
| | 6 | COMP_IN |
| | 7 | GND |
| | 8 | GND |
| | 10 | NC |
| CR1 | 1 | USBPWR3 |
| | 2 | USBP4N |
| | 3 | USBP4P |
| | 4 | GND |
| F_AUDIO1 | 1 | MIC2-L |
| | 2 | AGND |
| | 3 | LINE2-R |
| | 4 | VCC3 |
| | 5 | LINE2-R |
| | 6 | PET_R |
| | 7 | SENSEB |
| | 8 | KEy |
| | 9 | LINE2-L |
| | 10 | RET_L |